infinite™ DVX^Plus II/III/IV

System Programming Manual

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Issue	Release Date	Changes
2	8-99	☐ Feature Package 2 {FP2} enhancements have been added. ☐ Manual content contains extensive revisions.
2.1	12-99	☐ Feature Package 2 {FP2} updates have been added. ☐ Manual content has been revised.
3	5-00	☐ Feature Package 3 {FP3} enhancements have been added. ☐ Manual layout has been reformatted.
3.1	8-00	Manual content contains extensive revisions.
3.2	3-01	Manual content has been revised for correctness and clarity.
4.0	4-02	Feature Package 4 {FP4}, VoIP, and Flexible Numbering enhancements have been added.
4.1	2-03	☐ ISDN and T1 Clocking material has been revised. ☐ School Zone Feature has been added.

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1 Customer Database Programming

This manual provides the information necessary to program the *infinite DVX^{Plus} II/III/IV* System. The described features are based on the current software release. If any of these features do not work on your system, call your sales representative regarding upgrading your system.

Introduction

The *infinite DVX^{Plus}II/III/IV* Telephone System is programmed to meet each customer's individual needs. All programming is done at any 24-Button Executive Telephone as the programming station or through an ASCII terminal or PC. The digital display model is required for programming.

When the programming mode is entered, the digital telephone being used no longer operates as a telephone but as a programming station with all of the buttons redefined. The keys on the dial pad are used to enter data fields (Program Codes) associated with system, station, and CO line features as well as specific data that requires a numeric entry. Flexible buttons toggle on or off features, or enable entry of specific data fields. LEDs and the LCD display provide a visual indication of entered data and their value.

Programming is also performed using an ASCII terminal, or a computer capable of emulating an ASCII terminal. This form of programming is done locally (on-site) by connecting the terminal directly to the RS-232C connector on the Master Processor Board (MPB) or is performed remotely (off-site) through the use of the On Board 2400 baud modem (*DVX^{Plus}IV*) or the optional 2400 baud modem (*DVX^{Plus}II/III*). The method and steps to program the system via a PC are identical to those used when programming from a digital key set. A button to keyboard mapping is provided (refer to *Figure 1-2: Programming Button Mapping*) to help minimize familiarization and training time.

The system must be initialized to load default data into memory at the time of installation. If this pre-programming is acceptable to the customer, initialization is all that is needed. Refer to *Table 1-1: Feature Default Values* for a listing of all the default values.

When features are programmed, tones are provided to determine if a correct or incorrect entry has been made. A solid one second tone indicates the data was accepted. An interrupted tone means an error was made. When this occurs, re-enter the data and information.

Until new data is entered and accepted, the system continues to operate under default or previously entered values.

The system database is updated on a real-time basis as new data is entered, by pressing the Hold button. The system continues to operate with the current database and is updated with any newly entered or changed data without interruption to telephone operation or call processing in progress. However, if for example a station's attributes are changed while that station is off-hook on an active call, the newly entered data does not take effect until the station goes on-hook or becomes idle.

When using a PC to program the system, the following chart presents the data terminal characters that are equivalent to the key set buttons.

Some features must have more than one data field programmed for that feature to work. This information is stated in the instructions.

```
adm>
REMOTE ADMIN KEY DEFINITION
Keyset   Term   Keyset   Term   Keyset   Term
-----------------------------------------------
0        0      FLEX 1   Q      FLEX 13   D
1        1      FLEX 2   W      FLEX 14   F
2        2      FLEX 3   E      FLEX 15   G
3        3      FLEX 4   R      FLEX 16   H
4        4      FLEX 5   T      FLEX 17   J
5        5      FLEX 6   Y      FLEX 18   K
6        6      FLEX 7   U      FLEX 19   L
7        7      FLEX 8   I      FLEX 20   ;
8        8      FLEX 9   O      FLEX 21   Z
9        9      FLEX 10  P      FLEX 22   X
*        *      FLEX 11  A      FLEX 23   C
#        #      FLEX 12  S      FLEX 24   V
TRANS    B      MUTE     N      ON-OFF    M
FLASH    `      HOLD     CR
adm>
```

Figure 1-1: Data Terminal Program Codes Cross Reference

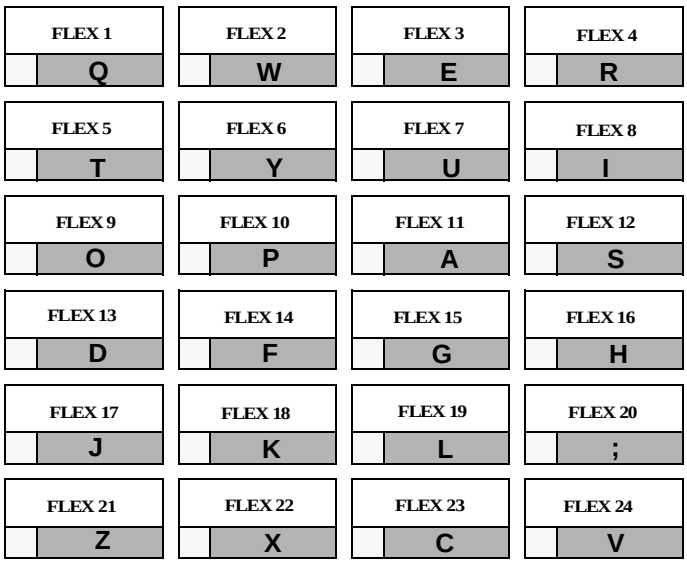


Figure 1-2: Programming Button Mapping

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
SYSTEM PARAMETERS PROGRAMMING	2-1			
SYSTEM TIMERS	2-3	FLASH 01		
System Hold Recall Timer	2-4		1	60 sec
Exclusive Hold Recall Timer	2-5		2	180 sec
Attendant Recall Timer	2-5		3	1 min
Transfer Recall Timer	2-6		4	45 sec
Pause Timer	2-6		7	2 sec
Call Park Recall Timer	2-6		8	180 sec
Conference/DISA Timer	2-7		9	10 min
Paging Time-Out Timer	2-7		10	15 sec
CO Ring Detect Timer	2-8		11	3=300 ms
SLT DTMF Receiver Timer	2-8		12	20 sec
Message Wait Reminder Tone	2-9		13	000=Disabled
SLT Hook Flash Timer	2-9		14	10=1 sec
SLT Hook Flash Debounce Timer	2-10		15	030=300 ms
SMDR Call Qualification Timer	2-11		16	30 sec
Automatic Call Back Timer	2-11		17	03 sec
Reminder Ring Timer	2-12		18	00 sec
Inter-Digit Time-Out	2-12		20	5 sec
ADDITIONAL SYSTEM TIMERS	2-13	FLASH 02		
Repeat Redial Timer	2-14		1	60 sec
Attendant Display Timer	2-14		2	01 sec
Call Coverage Ring Timer	2-15		3	5 sec
Modem Answer Timer	2-15		4	25 sec
Pulse Dial Inter-Digit Timer	2-16		5	300 ms
DTMF On/Off Time Operation	2-16		6	1=100ms
SYSTEM FEATURES 1 PROGRAMMING	2-17	FLASH 05		
Attendant Override	2-18		1	Disabled
Hold Preference	2-18		2	System
External Night Ring	2-19		3	Disabled
Executive Override Warning Tone	2-19		4	Enabled
Page Warning Tone	2-20		5	Enabled
Background Music	2-20		6	Enabled
Least Cost Routing (LCR)	2-21		7	Disabled

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Account Codes – Forced	2-21		8	Disabled
Group Listening	2-22		9	Disabled
Idle Speaker Mode	2-22		10	Disabled
Call Cost Display Feature	2-22		11	Disabled
Music-On-Hold	2-23		12	Enabled
Call Qualifier Tone	2-24		13	Disabled
SYSTEM FEATURES 2 PROGRAMMING	2-25	FLASH 06		
Barge In Warn Tone	2-26		1	Enabled
CO Ring Tones	2-27		2	Enabled
Verified Account Codes	2-27		3	Disabled
Call Forward Display	2-28		4	Enabled
External Day Ring	2-28		5	Disabled
Overflow Station Forward	2-29		6	Disabled
Direct Transfer Mode	2-29		7	Enabled
Station ID Lock	2-30		8	Disabled
LCR Call Progress	2-30		9	Enabled
One-Touch Recording Warn Tone	2-31		10	Enabled
Ringback on Transfer	2-31		11	Disabled
ACD Agent Recall	2-32		12	Disabled
911 Feature	2-32		13	Disabled
Enhanced 911	2-33		14	Disabled
VMID Station Numbers	2-34		15	STA Numbers = VMID
FLASH RATES (Programmable)	2-35	FLASH 07		
Incoming CO Line Ringing	2-36		1	Red 480 ipm flutter
Incoming Intercom Ringing	2-36		2	Red 120 ipm flutter
Call Forward Button	2-37		3	Red Steady On
Message Wait/VM Button	2-37		4	Red Steady On
Message CallBack – DSS/BLF	2-38		5	Red 120 ipm flutter
Do Not Disturb – DSS/BLF	2-38		6	Red 60 ipm Dbl Wink
Auto CallBack – DSS/BLF	2-39		7	Red 120 ipm flash
UCD Available/Unavailable – DSS/BLF	2-39		8	Red 60 ipm Dbl Wink
Transfer CO Ringing	2-40		9	Red 120 ipm flash
Recall CO Ringing	2-40		10	Red 480 ipm flutter
Queued CO Ringing	2-41		11	Green 480 ipm flutter

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Exclusive Hold	2-41		12	Green 120 ipm flash
System Hold	2-42		13	Red 60 ipm Dbl Wink
In-Use Hold (I-Hold)	2-42		14	Green 60 ipm flash
Camp-On Button	2-43		15	Red 120 ipm flash
Call Back Button	2-43		16	Red 120 ipm flash
Line Queue Button	2-44		17	Red 480 ipm flutter
Do Not Disturb Button	2-44		18	Red Steady On
Intercom Hold Button	2-45		19	Red 15 ipm flash
SYSTEM PARAMETERS PROGRAMMING	2-46	FLASH 09		
MOH Assignments (Channels 3-8)	2-47		1-6	None
E911 Power Failure Station	2-48		7	None
Node/Hub Identification	A-13		8	01
School Mode	2-48		10	Disabled
School Zone Call Forward Destination	2-48		11	None
ATTENDANT STATION ASSIGNMENT	2-50	FLASH 10		STA 100
SYSTEM TIME AND DATE	2-50	FLASH 11	1	MMM/DD/YY, 12-hour display
PBX DIALING CODES	2-51	FLASH 12	--	None
EXECUTIVE/SECRETARY PAIRS	2-52	FLASH 13	1-4	None
ON-BOARD RELAY PROGRAMMING	2-53	FLASH 14	1-6	None
BAUD RATE ASSIGNMENTS	2-54	FLASH 15		
Port #1 (On-Board RS-232C)	2-54		1	9600 Baud
Port #2 (Modem - baud auto-negotiated)	2-55		2	None
Port #3 (SIU2 Module RS-232)	2-54		3	9600 Baud
Port #4 (SIU2 Module RS-232)	2-54		4	9600 Baud
NETWORKING TABLES	A-14	FLASH 16		
Trunk Group	A-18		1	00
Station Range (FROM)	A-18		2	1000
Station Range (TO)	A-18		3	9999
IP Address	B-12		4	
Ext BLF Cards (1-8)	A-18		5	None
Check Status	A-18		6	Disabled
Page Up	A-18		22	None
Page Down	A-18		23	None
System Number	A-18		24	None

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
ACCESS CODES	*2-55*	FLASH 20		
DISA Access Code	*2-56*		1	100
Database Admin Password	*2-56*		2	3226
STATION MESSAGE DETAIL RECORDING	*2-57*	FLASH 21		
SMDR Enable/Disable	*2-57*		1	No
Long Distance/All Calls	*2-58*		2	Long Distance
Character Print Assignment	*2-58*		3	80
Baud Rate Display	*2-58*		4	9600
SMDR Port Assignments	*2-59*		5	Port #1
WEEKLY NIGHT MODE SCHEDULE	*2-59*	FLASH 22		
Automatic/Manual Operation	*2-60*		1 2-8	Manual=None Auto=M-F 08:00 17:00, Sat-Sun ##:## ##:##
Day of Week Programming	*2-60*			None
DIRECTORY DIALING	*2-61*	FLASH 23		
Bin/ICM Numbering	*2-62*		1	None
Name Changes	*2-63*		2	None
Clearing An Entry	*2-63*		3	None
Backspace To Correct Error	*2-63*		4	None
CABINET/CARD PROGRAMMING	*2-64*	FLASH 24		
Card Slots (0-11)	*2-64*		1-12	Slot 0
Power Supply Types (0-1) (*DVXPlus IV*)	*2-65*		15-16	10 Amps
Cabinets (0-3)	*2-65*		17-20	Cabinet 0
HUNT GROUPS	*2-66*	FLASH 30		
Hunt Group Programming	*2-66*		1-12	None
Station/Pilot/Pilot Ring All -- Hunting Assignments	*2-67*		13	Pilot
VERIFIED ACCOUNT CODES	*2-68*	FLASH 31		
Account Code	*2-68*		1	None
Class of Service	*2-68*		2	None
Delete Code	*2-69*		3	None
Erase Digits	*2-69*		4	None
CO LINE GROUP QUEUING	*2-70*	FLASH 39	1-24	Enabled
CO LINES ATTRIBUTES PROGRAMMING (Press HOLD for entire range)	*3-1*			

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
PAGE A INTRODUCTION	3-3	FLASH 40	Btn 19	
DTMF/Dial Pulse Programming	3-4	Page A	1	DTMF
CO/PBX Programming	3-4		2	CO
Universal Night Answer (UNA)	3-4		3	Enabled
DISA CO-to-CO	3-5		4	Enabled
Privacy	3-6		5	Enabled
Loop Supervision Programming	3-7		6	4=400 ms
DISA Programming	3-7		7	None
CO Line Group Programming	3-8		8	Group 1
Class of Service (COS) Programming	3-9		9	COS 1
CO Line Ringing Assignments	3-10		10	Station 100
CO Line Identification Display	3-11		11	Line XXX
CO Direction	3-12		12	Incoming/Outgoing
Display Ring Assignments	3-13		13	None
DID/TIE Signal	3-14		14	Wink
911 Trunk	3-14		15	Disabled
Electronic Key Telephone Service	3-15		16	Disabled
PAGE B INTRODUCTION	3-16	FLASH 40	Btn 20	
T-1 Signaling Type	3-17	Page B	1	Loop Start
T-1 Ringback	3-18		2	Enabled
T-1 Dial Tone	3-19		3	Disabled
Transmit Volume	3-19		4	5=0 dB
Preset Call Forward Destination	3-20		5	####
Preset Forward Voice Mail ID	3-20		6	####
Universal Day Answer (UDA)	3-21		7	Disabled
Music-On-Hold (per CO Line)	3-21		8	Channel 1
Ring Tone (per CO Line)	3-22		9	Tone # 00
Directory Number	3-44		10	None
SPID	3-23		11	None
PAGE C INTRODUCTION	3-24	FLASH 40	Btn 21	
Flash Timer Programming	3-25	Page C	1	10=1.0 sec
Ring Delay Timer	3-25		2	00=Disabled
Wink Timer	3-26		3	140 ms
Release Timer	3-26		4	020=200 ms

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Reseize Timer	3-27		5	200=200 sec
Guard Timer	3-27		6	05=.5 sec
Seize Timer	3-28		7	010=0.1 sec
Preset Forward Timer	3-28		8	10 sec
DID Collect Timer	3-29		9	015=150 ms
T-1 Collect Timer	3-29		10	015=150 ms
MISCELLANEOUS CO PARAMETERS	3-30	FLASH 41		
Dial Pulse Parameters	3-30		1	60/40, 10 pps
DID Digits	3-31		3	3
DID Incoming Signal	3-32		5	DTMF
T-1 Incoming Signal	3-32		6	DTMF
T-1 Framing Type	3-33		7	D4SF-AMI
FLEXIBLE CO PORT ASSIGNMENT	3-33	FLASH 42		
DVX^{Plus}II/III System	3-34		1-6	CO Ports 1-48
DVX^{Plus}IV System	3-34		1-18	CO Ports 1-144
ICLID PROGRAMMING	3-35	FLASH 43		
ICLID Ringing Assignment(s)	3-35		1	None
View ICLID Ringing Assignments	3-37		17	
Next ICLID Route Number	3-38		18	
Previous ICLID Route Number	3-38		19	
Select Route Number	3-38		20	
DID PROGRAMMING	3-38	FLASH 44		
Route Number	3-38		1	None
DID Phone Number	3-39		2	None
Name Assigned to Number	3-40		3	None
Erasing a DID Table Entry	3-40		4	None
ISDN PROGRAMMING	3-42	FLASH 45	Btn 19	
BRI CO Type	3-43	Page A	1	NI1
PRI CO Type	3-43		2	NI2
Framing	3-43		3	ESF
NT/TE Mode	3-43		4	TE
Power	3-44		5	Disabled
Directory Number	3-44		6	None
Max Out I-Frames	3-44		7	K 001

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Leading 1	*3-45*		8	Enabled
Leading 011	*3-45*		9	Enabled
7/8 Digit Number Plan	*3-46*		10	ITU
Calling Number	*3-46*		11	Enabled
Loopback	*3-47*		12	Normal
10 Digit Number Plan	*3-47*		13	ITU
11 Digit Number Plan	*3-47*		14	ITU
ISDN PROGRAMMING	*3-48*	FLASH 45	Btn 20	
Maximum Number Retransmission	*3-49*	Page B	1	3
Maximum Octets	*3-49*		2	260
Maximum TEI ID Request	*3-49*		3	003
Maximum XID Retransmission	*3-49*		4	3 sec
T-200	*3-50*		5	01 sec
Minimum TEI ID Check Message	*3-50*		6	01 sec
Minimum TEI ID Request	*3-50*		7	02 sec
Message Exchange Timer	*3-50*		8	15 sec
Minimum XID Retransmission	*3-51*		9	3 sec
Inter Digit T/O	*3-51*		10	25 sec
Set-up Timer	*3-51*		11	10 sec
Disconnect Timer	*3-51*		12	04 sec
Release Request	*3-52*		13	04 sec
Link Disconnect	*3-52*		14	30 sec
Call Proceeding	*3-52*		15	60 sec
Connect Request	*3-52*		16	04 sec
Restart Request Timer	*3-53*		17	120 sec
VOIP NETWORK PROGRAMMING		FLASH 46		
IP Address	*B-10*		1	None
Subnet Mask	*B-10*		2	None
Router IP Address	*B-10*		3	None
Domain Name	*B-11*		4	None
Vocoder Value	*B-11*		5	G.723.1
T-1 ALARM PROGRAMMING	*3-53*	FLASH 47		
Carrier Loss Alarm	*3-54*		1	Enabled
Blue Alarm	*3-55*		2	Enabled

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Yellow Alarm	3-55		3	Enabled
Red Alarm	3-56		4	Enabled
Bipolar Alarm	3-56		5	Enabled
Frame Slip Alarm	3-57		6	Enabled
Data Errors Alarm	3-57		7	Enabled
Enable/Disable (Carrier Loss Alarm)	3-54		11	Enabled
Clear Alarm	3-58		12	Enabled
Minor Alarm	3-58		13	15 min
Major Alarm	3-58		14	30 min
Time Period	3-59		15	5 min
Attendant Display	3-59		16	Enabled
STATION ATTRIBUTES PROGRAMMING	4-1			
PAGE A INTRODUCTION	4-3	FLASH 50/51	Btn 19	
Paging Access	4-4	Page A	1	Enabled
Do Not Disturb	4-5		2	Enabled
Conference Enable/Disable (Per Station)	4-5		3	Enabled
Executive Override	4-6		4	Disabled
Privacy (Per Station)	4-7		5	Enabled
System Speed Dial Access	4-8		6	Enabled
Line Queuing	4-8		7	Enabled
Preferred Line Answer	4-9		8	Enabled
Off-Hook Voice Over (OHVO)	4-9		9	Disabled
Call Forwarding	4-10		10	Enabled
Forced Least Cost Routing (LCR)	4-10		11	Disabled
ACD Supervisor Monitor with Barge-In	4-11		12	Disabled
Executive Override Blocking	4-11		13	Disabled
CO Line Ringing Options	4-12		14	Muted Ring
Name/Number Display at Idle	4-12		15	Name (Enabled)
ACD Zap Tone	4-13		16	Disabled
CO, Loop, Pool	4-13		17	Disabled
Admin Access	4-14		18	Disabled
PAGE B INTRODUCTION	4-14	FLASH 50/51	Btn 20	
Station Identification	4-16	Page B	1	006 (24-Btn Key set) 6 (SLT w/o MW)
Station Day Class of Service (COS)	4-22		2	COS 1

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Station Night Class of Service (COS)	*4-23*		3	COS 1
Speakerphone/Headset Programming	*4-23*		4	0 (Full Speakerphone)
Pickup Group(s) Programming	*4-24*		5	Group 1
Paging Zone(s) Programming	*4-24*		6	Zone 1
School Zone Station Assignments	*4-25*		7	Disabled
Line Group Access - Station	*4-26*		8	Group 1
LCR Class of Service (COS)	*4-26*		9	0 (Unrestricted Access)
Off-Hook Preference Programming	*4-27*		10	00=Keyset
Flexible Button Programming	*4-28*		11	(blank)
Keyset Mode	*4-32*		12	Inactive Mode
Voice Mail ID Translation	*4-32*		13	XXXX=Station #
Display Flexible Buttons	*4-33*		14	None
Light Control	*4-35*		15	None
Cordless Key (CKTU) Button	*4-35*		17	00
PAGE C PROGRAMMING	*4-36*	FLASH 50/51	Btn 21	
Internal No Answer Forward	*4-37*	Page C	1	None
Internal Busy Forward	*4-38*		2	None
External No Answer Forward	*4-38*		3	None
External Busy Forward	*4-38*		4	None
No Answer Timer	*4-38*		5	10 sec
Speed Dial Access	*4-39*		6	None
FLEXIBLE NUMBERING ASSIGNMENT	*4-39*	FLASH 52		
Changing a Flexible Code	*4-39*		1	None
Erasing a Flexible Code	*4-40*		2	None
Selecting a Flexible Code	*4-39*		21	None
Selecting a Fixed Code	*4-39*		24	None
LOCAL NUMBER/NAME TRANSLATION TABLE	*2-71*	FLASH 55		
Route Number	*2-71*		1	1
Phone Number	*2-71*		2	None
Name	*2-71*		3	None
Clear Entry	*2-71*		4	None
ICLID FEATURES	*5-4*	FLASH 56		
Enable/Disable	*5-5*		1	Disabled
Name in Display	*5-5*		2	0=Telephone Number

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Baud Rate Display	5-5		3	9600
Port Assignment	5-6		4	Port #1
AUTOMATIC CALL DISTRIBUTION*	6-1			
ACD GROUP PROGRAMMING*	6-3	FLASH 60		
Group Name	6-4		1	None
Alternate Group	6-4		2	None
Overflow Station	6-5		3	None
Supervisor	6-5		4	None
CIQ Threshold	6-6		5	Disabled
Wrap-up Timer	6-7		6	4 sec
Primary Agents	6-7		7	None
Secondary Agents	6-8		8	None
Guaranteed RAN	6-9		9	None
Primary RAN	6-9		10	None
Secondary RAN	6-10		11	None
Transferred RAN	6-10		12	None
Overflow Timer	6-11		13	60 sec
Call Factor	6-11		14	None
ACD TIMERS	6-12	FLASH 61		
ACD Ring Timer	6-12		1	60 sec
ACD Message Interval Timer	6-13		2	60 sec
ACD No-Answer Recall Timer	6-13		5	000=Disabled
ACD No-Answer Retry Timer	6-14		6	300 sec
ACD Guaranteed Message Timer	6-14		7	5 sec
ACD RAN ANNOUNCEMENT TABLES*	6-15	FLASH 62	1–8	None
PC/ACD INTERFACE TRACE	6-18	FLASH 63		
Event Trace Disable/Enable	6-18		1	No (Disabled)
Trace Port Assignment	6-19		2	Port #1
Baud Rate Display	6-19		--	9600 Baud
UNIFORM CALL DISTRIBUTION (UCD)	7-1			
UCD GROUP PROGRAMMING	7-3	FLASH 60		
Alternate UCD Group Assignment	7-4		9	None
UCD Overflow Station Assignment	7-4		3	None
UCD Primary Agent Assignments	7-5		7	None

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
UCD Announcement Assignment(s)	*7-5*		10-11	None
UCD TIMERS	*7-6*	FLASH 61		
UCD Ring Timer	*7-7*		1	60 sec
UCD Message Interval Timer	*7-7*		2	60 sec
UCD Overflow Timer	*7-8*		3	60 sec
UCD Wrap-Up Timer	*7-8*		4	4 sec
UCD No-Answer Recall Timer	*7-9*		5	000=Disabled
UCD No-Answer Retry Timer	*7-9*		6	300 sec
UCD ANNOUNCEMENT TABLES (RAN)	*7-10*	FLASH 62	1–8	None
VOICE MAIL GROUPS	*8-1*			
VOICE MAIL PROGRAMMING	*8-3*	FLASH 65		
Voice Mail Groups (440-447)	*8-3*		1–8	None
Alternate Voice Mail Group	*8-4*		9	None
Standard Leave Mail Index Entry	*8-5*		10	VM Group 1 Index = 0
Retrieve Mail Index Entry	*8-5*		11	VM Group 1 Index = 1
Station Assignment(s)	*8-6*		12	None
No Answer Leave Mail Index	*8-6*		13	VM Group 1 Index = 0
Busy Leave Mail Index	*8-7*		14	VM Group 1 Index = 0
VOICE MAIL OUTPULSING TABLE	*8-7*	FLASH 66		
Voice Mail In-Band Signaling	*8-7*			
(Table 0)	*8-8*		1	Pre=P7 Suf=None
(Table 1)	*8-8*		2	Pre=P7 Suf=*
(Tables 2-6)	*8-8*		3-7	None
(Table 7)	*8-8*		8	Pre=P7 Suf=2
Voice Mail Disconnect Table	*8-8*		9	None
VOICE MAIL IN-BAND FEATURES	*8-9*	FLASH 67		
Voice Mail In-Band Digits	*8-10*		1	Enabled
Voice Mail Transfer/Forward	*8-10*		2	Enabled
Voice Mail Broker	*8-11*		3	Enabled
VMID	*8-11*		4	3
Remote VM Number (Networking)	*A-26*		5	None
VM Port	*8-12*		6	Disabled
VM Port Number	*8-12*		7	3
EXCEPTION TABLES PROGRAMMING	*9-3*			

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
TOLL RESTRICTION PROGRAMMING	9-6	FLASH 70		
Allow Table A Programming	9-7		1	None
Deny Table A Programming	9-9		2	None
Allow Table B Programming	9-7		3	None
Deny Table B Programming	9-9		4	None
Special Table 1 Programming	9-10		5	All Codes Denied
Special Table 2 Programming	9-10		6	All Codes Denied
Special Table 3 Programming	9-10		7	All Codes Denied
Special Table 4 Programming	9-10		8	Home
Area Code for Special Table 1	9-10		9	None
Area Code for Special Table 2	9-10		10	None
Area Code for Special Table 3	9-10		11	None
Displaying Toll Table Entries	9-11		12	None
LEAST COST ROUTING (LCR) PROGRAMMING	10-1			
LCR TABLES PROGRAMMING	10-3	FLASH 75		
3-Digit Area/Office Code Table	10-7		1	None
6-Digit Area/Office Code Table	10-7		2	None
Exception Code Table	10-8		3	None
Route List Table	10-8		4	None
Insert/Delete Table	10-10		5	None
Daily Start Time Table	10-12		6	None
Weekly Schedule Table	10-13		7	None
LCR Routing for Toll Information	10-14		8	Table 0
INITIALIZE DATABASE PARAMETERS	11-1	FLASH 80		
Initialize System Parameters	11-3		1	Default
Initialize CO Line Attributes	11-8		2	Default
Initialize Station Attributes	11-10		3	Default
Initialize CO Port Assignments / Codes	11-11		4	Default
Initialize Exception Tables	11-12		5	Default
Initialize System Speed Numbers	11-13		6	Default
Initialize LCR Tables	11-14		7	Default
Initialize ICLID-DID Tables	11-15		8	Default
Initialize Dir Dialing Table Parameters	11-16		9	Default
Initialize Hunt Group Parameters	11-16		10	Default

** Features available with Optional Software*

Table 1-1: Feature Default Values

Features	Page #	Program Code	Flex Button	Default Value
Initialize ACD*/UCD Group Parameters	*11-17*		11	Default
Initialize Voice Mail* Group Parameters	*11-19*		12	Default
Initialize DID-TIE Parameters	*11-20*		13	Default
Initialize Verified Account Code Table	*11-21*		14	Default
Initialize ISDN Parameters	*11-21*		15	Default
System Reset	*11-23*		20	---
PRINTING SYSTEM DATABASE PARAMETERS	*12-1*	FLASH 85		
Printing System Parameters	*12-4*		1	Default
Printing CO Line Attributes	*12-7*		2	Default
Printing Station Attributes	*12-9*		3	Default
Printing CO Port Parameters / Codes	*12-11*		4	Default
Printing Exception Tables	*12-12*		5	Default
Printing System Speed Numbers	*12-14*		6	Default
Printing LCR Tables	*12-15*		7	Default
Printing Entire System Database	*12-24*		8	Default
Printing ICLID-DID Tables	*12-25*		9	Default
Printing Directory Dial Table Parameters	*12-36*		10	Default
Printing Hunt Group Parameters	*12-38*		11	Default
Printing ACD*/UCD Group Parameters	*12-39*		12	Default
Printing Voice Mail* Group Parameters	*12-40*		13	Default
Printing DID-TIE Parameters	*12-42*		14	Default
Printing Verified Account Codes	*12-43*		15	Default
Printing ISDN Parameters	*12-44*		16	Default
LOAD DATABASE ROUTINE	*1-19*	FLASH 86		
Upload Database	*1-19*		1	PC Only
Download Database	*1-19*		2	PC Only

** Features available with Optional Software*

Program Mode Entry (Key Station)

Programming is performed at any 24-button Digital Display Terminal. Programming is always done at this type of station regardless of the class of service or which station has been assigned the attendant(s).

To enter the program mode:

1. Press the ON/OFF button (optional). LED lights and intercom dial tone is heard.
2. On the dial pad, press [✳][✳][3][2][2][6] (default password). A confirmation tone sounds.
3. The ON/OFF button LED is lit. The system is ready to program.

Program Mode Entry (Data Terminal or PC)

A PC terminal connected to the RS-232C port on the MPB, or remotely through the 2400 baud modem (*DVX^{Plus}IV*) or optional 2400 baud modem on *DVX^{Plus}II/III*, is used for database programming. When using a data terminal (ASCII or PC capable of emulating an ASCII terminal) on-site or locally, to program the system:

1. Press <Enter> on the terminal.
2. Enter the password [default=3226VODAVI], and press <Enter> again. Proper entry of the password results in the Adm> prompt. Proceed with programming referring to *Figure 1-1: Data Terminal Program Codes Cross Reference* for terminal characters that represent the key set buttons. By entering [?] from the terminal, a Help screen displays.

When entering the system remotely via a PC, access to the modem is accomplished by accessing Port 499 through a direct ringing assignment or through DISA or by being transferred to Port 499.

Initialization

The system has been preprogrammed with certain features called default data (refer to *Table 1-1: Feature Default Values*). These features are loaded into memory when the system is initialized.

The system should be initialized when installed or at any time the database has been corrupted.

Use the following procedures to return the system database to default values:

1. Place Switch #8 on the MPB in the ON position.
2. Turn the power off and on to initialize the system database to the default.
3. Once database is initialized, place Switch #8 in the OFF position to protect the database.

Database Programming Worksheets

Before attempting programming, it is strongly recommended that customer database worksheets be prepared (Refer to Appendix C in the *Product Description Manual*). These worksheets should become part of the permanent record of customer programming. Refer to the following sections when preparing the worksheets.

Database Upload/Download Routine

The Database Upload/Download Routine (FLASH 86) provides a maintenance facility which permits the user to download the database to a PC, when a software change is made or when the system needs to be initialized and reprogrammed. The Upload/Download Routine facilitates the programming of a database on an in-house system which is downloaded to a PC and then uploaded to a system in the field.

After the system maintenance is completed, the file saved in the PC can then be uploaded to the system.

All trace modes such as: SMDR (Flash 21), ICLID (Flash56), and Maintenance Event Traces MUST be turned off before a download is performed!

Default telephone type = 24 button model

Upload/Download through Remote Administration

First, connect one end of an RS-232C serial cable from the RS-232C connector on the MPB to the desired Comm Port on the PC.

Use a straight-through DB-9 to DB-9 (female to female) cable.

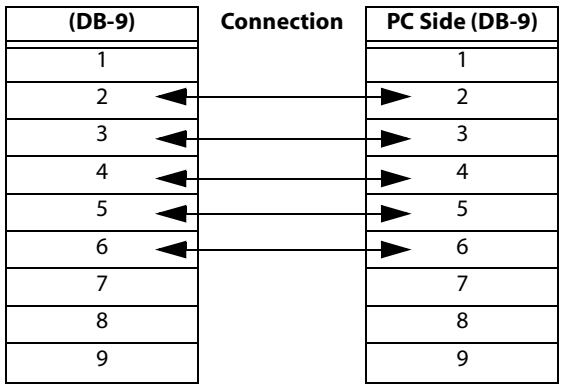


Figure 1-3: KSU to PC Connection Configuration

Then load a communication software package (e.g., Procomm) into the PC and complete the following steps to reconfigure the system.

PROCOMM -- Downloading a Database File

1. Make necessary changes to the areas shown in the following table, and save information to capture new system settings:

Table 1-2: Database Download Settings

System Options		Settings
Parameters: a + [P]		
Baud Rate		9600 Baud N for Parity 8 Bits 1 Stop Bit
Setup Options: a + [S]		
Item A	Echo Locally	OFF
Item D	Character Pacing	0
Item E	Line Pacing	0
Item F	Pace Character	0
Item I	CR Translation (upload)	NONE
Item J	LF Translation (upload)	NONE
Item K	CR Translation (download)	NONE
Item L	LF Translation (download)	NONE
Protocol Options		
Item C*	Abort xfer if CD lost	NO
* For Procomm Plus Version 2.01 or higher		

2. Press <Enter> and the following screen displays:

```
Eng. Ver. 0.0e-FFFF DATE: MM/DD/YY TIME: HH:MM:SS
ENTER PASSWORD:
```

3. Type the password [default=3226VODAVI] and press <Enter>. Proper entry of the password results in the ADM> prompt.

4. To select the appropriate codes for the following screen capture, refer to *Figure 1-1* for terminal characters that represent the key set buttons. For assistance, type a [?] to display a Help screen.

```
Eng. Ver. 0.0e-FFFF  DATE:  MM/DD/YY  TIME:  HH:MM:SS
ENTER PASSWORD:
adm>
  ADMIN PROGRAMMING
adm>,
  ENTER PROGRAM NO
adm>86 (and press Enter)
  LOAD DATABASE ROUTINE
  ENTER BUTTON NUMBER
adm>w (and press Enter)
  DOWNLOAD DATABASE
  PRESS HOLD  <----------  The HOLD button on a keyset is the same
adm>                       as the <Enter> key on the keyboard.
                           Press Enter.
```

5. Press <PgDn> to display the Download Protocol screen.

```
    Dowload Protocols - 124811648 bytes free

    X) XMODEM                A) ASCII
    Z) ZMODEM                R) RAW ASCII
    Y) YMODEM (Batch)        T) TELINK
    G) YMODEM-G (Batch)      M) MODEM7
    O) 1K-XMODEM             W) WXMODEM
    E) 1K-XMODEM-G           I) IMODEM
    C) COMPUSERVE B+         1) [EXT 1]
    K) KERMIT                2) [EXT 2]
    S) SEALINK               3) [EXT 3]



  Your Selection: (press ENTER for ZMODEM)
```

6. Type **X** to send the upload file to the X-Modem for tracking and correcting errors during the upload procedure.
7. When the Receive XMODEM screen displays, enter path and file name for database file, then press <Enter> to begin the download routine.

```
      Receive XMODEM

    Please enter filename:
```

The download is complete when a confirmation tone is produced by the communications package and the ADM> prompt returns.

8. Type **M** and press <Enter>.
9. Press <Alt> + <X>.
10. To exit Procomm and return to the DOS prompt, press <Enter>.

The Downloaded Database cannot be changed in the PC. The Upload/Download Routine is only a method to save an existing database. Database changes are made using the remote admin capabilities.

Baud rates on I/O ports are NOT downloaded or uploaded.

The download file contains a series of ASCII strings with a checksum at the end of the string. The checksum is verified when the system receives the string. An error in the checksum results in rejection of the string. An error message is sent to the PC when a string is received with an error.

The Database must be initialized prior to an upload. The system should then be reset after the upload.

If the file uploaded from the PC contains:

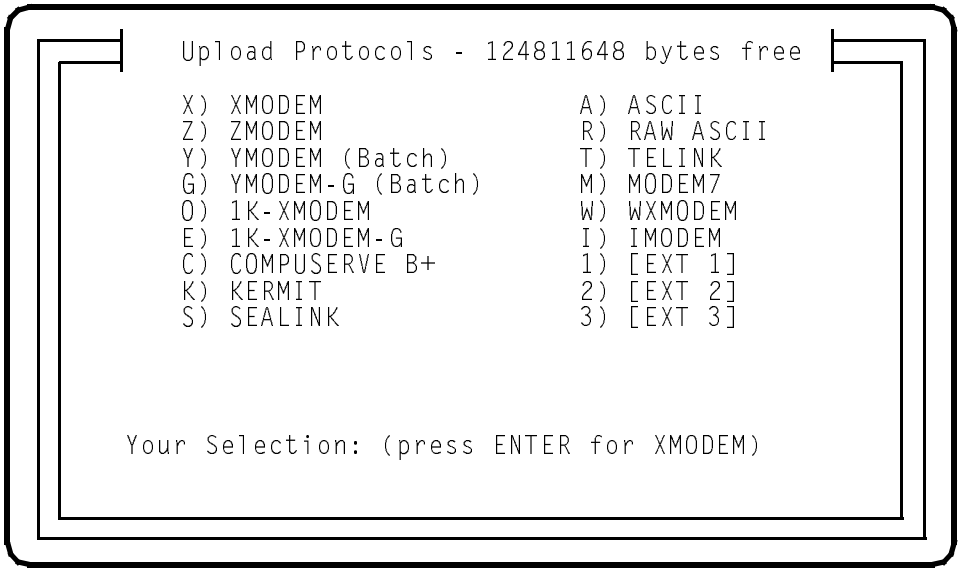
- **Less** information in a string than required by the system database, the system maintains default info in the area not covered by string.
- **More** information in a string than required by the system database, the system ignores the additional information.

PROCOMM -- Uploading an ASCII Database File

1. Enter the information on the following screen capture.

```
Eng. Ver. 0.0e-FFFF  DATE:  MM/DD/YY  TIME:  HH:MM:SS
ENTER PASSWORD:
adm>
  ADMIN PROGRAMMING
adm>,
  ENTER PROGRAM NO
adm>86 (and press Enter)
  LOAD DATABASE ROUTINE
  ENTER BUTTON NUMBER
adm>q (and press Enter)
  UPLOAD DATEBASE
  PRESS HOLD  <----------  The HOLD button on a keyset is the same
adm>                       as the <Enter> key on the keyboard.
                           Press Enter.
```

2. Press <PgUp> and the Upload Protocols screen displays:



3. Type **X** to send the upload file to the X-Modem for tracking and correcting errors during the upload procedure.
4. When the Send XMODEM screen displays, enter a path and file name for the database file and press <Enter> to upload desired file to the system.

The upload is complete when a confirmation tone sounds and the ADM> prompt returns.

5. Type **M** and press <Enter>. The following screen displays:

```
adm>m
exiting admin...

DATE: MM/DD/YY       TIME:HH:MM:SS
exiting maintenance utility...
```

6. Press <Alt> + <X>.
7. To exit Procomm and return to the DOS prompt, press <Enter>.
8. When the upload procedure is completed, reset the system for full activation of the database programming to take effect.

HYPER TERMINAL -- Uploading a Database File

After opening Hyper Terminal, and the New Connection screen displays, complete the following steps:

1. Type a connection name and select the appropriate icon, then click <OK>.
2. When the Phone Number screen displays, change the setting in the Connect Using box to: Direct to COM1, and then click <OK>.
3. Once the COM1 Properties screen displays, change the settings as shown, and then click <OK>.
   - Baud Rate = 9600
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = Xon/Xoff
4. Press <Enter> and complete the following fields:

Screen Field	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>Q	Upload database. Press HOLD button.
ADM>	Press <Enter> key twice.

5. On the tool bar, click <Transfer> and select Send File.
6. Change Protocol setting to XMODEM.
7. Click <Browse> to locate database file; double-click on the filename.
8. Click <Send>. Adm> prompt displays when file transfer is complete.

HYPER TERMINAL -- Downloading a Database File

After opening Hyper Terminal, and the New Connection screen displays, complete the following steps:

1. Type connection name and select appropriate icon, then click <OK>.
2. When the Phone Number screen displays, change the setting in the Connect Using box to: Direct to COM1, and then click <OK>.
3. Once the COM1 Properties screen displays, change the settings as shown, and then click <OK>.
   - Baud Rate = 9600
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = Xon/Xoff
4. Press <Enter> and complete the following fields:

Screen Fields	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>W	Download database. Press HOLD button.
ADM>	Press <Enter> key twice.

5. On the tool bar, click <Transfer> and select Receive File.
6. Change Receive Protocol setting to XMODEM, and click <Receive>.
7. Type database filename and click <OK>. The Adm> prompt displays when the file transfer is complete.

ECOM -- Uploading a Database File

After opening ECOM:

1. Press< Alt> + <P> to open COM Port Options.
2. Change COM port settings as follows, and click <OK>.
   - Baud Rate = 9600
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = no boxes checked, Xon=17, Xoff=19
3. Press <Enter> and complete the following fields:

Screen Fields	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>Q	Upload database. Press HOLD button.
ADM>	Press <Enter> key twice.

4. Press <PgUp> on keyboard or locate file and select Upload.
5. Highlight XMODEM and click <OK>.
6. Type or select upload filename and click <OK>. The Adm> prompt displays when the file transfer is complete.

ECOM -- Downloading a Database File

After opening ECOM:

1. Press< Alt> + <P> to open COM Port Options.
2. Change COM port settings as follows, and click <OK>.
   - Baud Rate = 9600
   - Parity = None
   - Data Bits = 8
   - Stop Bits = 1
   - Flow Control = no boxes checked, Xon=17, Xoff=19
3. Press <Enter> and complete the following fields:

Screen Fields	Action
ENTER PASSWORD:	Type password: XXXXVODAVI (XXXX = default password for online administration)
ADM>,	Type program number.
ADM>86	Load database routine. Type button number.
ADM>W	Download database. Press HOLD button.
ADM>	Press <Enter> key twice.

4. Press <PgDn> on keyboard or locate file and select Download.
5. Highlight XMODEM and click <OK>.
6. Type or select download filename and click <OK>. The Adm> prompt displays when the file transfer is complete.

2 System Parameters Programming

This chapter describes the procedures and steps needed to program system features for the *DVX^{Plus} II/III/IV* Systems.

System Timers

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

Press **FLASH** and dial **[01]**. The following message displays:

```
SYSTEM TIMERS
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps to program system timers in the System Timers programming area. The buttons on a digital telephone are shown in the following illustration:

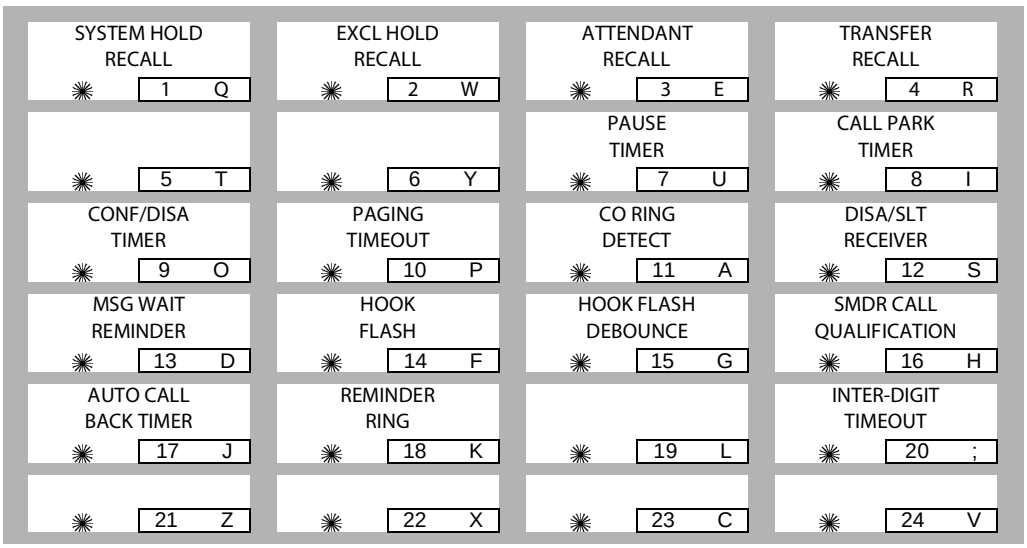


Table 2-1: System Timer Defaults

Program Code	Flex Button	Feature	Default (after initialization)
FLASH 01	1	System Hold Recall	060 seconds
	2	Exclusive Hold Recall	180 seconds
	3	Attendant Recall Timer	01 minute
	4	Transfer Recall Timer	045 seconds
	7	Pause Timer	2 seconds
	8	Call Park Recall Timer	180 seconds
	9	Conference/DISA Timer	10 minutes
	10	Paging Timeout Timer	15 seconds
	11	CO Ring Detect Timer	300 ms
	12	SLT DTMF Receiver Timer	020 seconds
	13	MSG Wait Reminder Tone	000 minutes
	14	SLT Hook Flash Timer	10 (1 second)
	15	SLT Hook Flash Debounce	030=.3 seconds)
	16	SMDR Call Qualification Timer	30 seconds
	17	Auto Call Back Timer	03 seconds (enabled)
	18	Reminder Ring Timer	00 seconds (disabled)
	20	Inter-Digit Timeout	5 seconds

System Hold Recall Timer

Programming Steps

1. Press the SYSTEM HOLD RECALL TIMER flex button **(FLASH 01, Button #1)**. The following message displays:

```
SYSTEM HOLD RECALL      000-300
060
```

2. Enter a valid number on the dial pad that corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The System Hold Recall Timer determines the time before a call placed on System Hold recalls the station placing the hold. If unanswered by that station, the call recalls the attendant.

By default, the System Hold Recall Timer is set for 60 seconds and is variable from 000-300 seconds. An entry of 000 disables the timer and there is no recall.

Exclusive Hold Recall Timer

Programming Steps

1. Press the EXCLUSIVE HOLD RECALL TIMER flex button **(FLASH 01, Button #2)**. The following message displays:

```
EXC HOLD RECALL          000-300
180
```

2. Enter a valid number on the dial pad that corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The System Hold Recall Timer determines the time before a call placed on Exclusive Hold recalls the station placing the Hold. If unanswered by that station, the call recalls the attendant.

By default, the Exclusive Hold Recall Timer is set for 180 seconds and is variable from 000-300 seconds. An entry of 000 disables the timer and there is no recall.

Attendant Recall Timer

Programming Steps

1. Press the ATTENDANT RECALL TIMER flex button **(FLASH 01, Button #3)**. The following message displays:

```
ATND RECALL TIMER        00-60
01
```

2. Enter a valid number on the dial pad that corresponds to 00-60 minutes.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Attendant Recall Timer determines the time a recalling call rings at the attendant station(s) before the system releases the line. When a CO Line recalls to the Attendant station and is still unanswered, the system releases the line at the expiration of this timer and automatically places the line to an idle condition.

By default, the Attendant Recall Timer is set for 1 minute and is variable from 00–60 minutes. An entry of 00 causes the Attendant(s) to ring until answered.

Transfer Recall Timer

Programming Steps

1. Press the TRANSFER RECALL TIMER flex button **(FLASH 01, Button #4)**. The following message displays:
2. Enter a valid number on the dial pad that corresponds to 000-300 seconds.

```
TRANSFER RECALL          000-300
045
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Transfer Recall Timer determines the time a transferred call rings at the station receiving the transfer before it recalls the station making the transfer. If unanswered by that station, the call recalls the attendant. By default, the Transfer Recall Timer is set for 45 seconds and is variable from 000-300 seconds. A 000 entry disables the timer and there is no recall.

Pause Timer

Programing Steps

1. Press the PAUSE TIMER flex button **(FLASH 01, Button #7)**. The following message displays:

```
PAUSE TIMER                  1-9
2
```

2. Enter a valid number on the dial pad that corresponds to 1-9 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Pause Timer determines the length of the pause when programmed for use with speed dialing and LCR Insert Tables. By default, the Pause Timer is set at 2 seconds and is variable from 1–9 seconds. There is no 0 entry. *Using this feature may affect Centrex transfers.*

Call Park Recall Timer

Programming Steps

1. Press the CALL PARK RECALL TIMER flex button **(FLASH 01, Button #8)**. The following message displays:

```
CALL PARK TIMER          000-600
180
```

2. Enter a valid number on the dial pad that corresponds to 001-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Call Park Recall Timer determines the time before a call placed in a Call Park location recalls the station placing the call in park. If unanswered by that station, the call recalls the attendant.

By default, the Call Park Recall Timer is set at 180 seconds and is variable from 000–600 seconds. A 000 entry disables the timer and there is no recall.

Conference / DISA Timer

Programming Steps

1. Press the CONFERENCE/DISA TIMER flex button **(FLASH 01, Button #9)**. The following message displays:

```
CONFERENCE TIMER          00-99
10
```

2. Enter a valid number on the dial pad that corresponds to 01-99 minutes.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Conference/DISA Timer determines the time an unsupervised conference can continue after the initiator of the conference has exited.

By default, the Conference/DISA Timer is set at 10 minutes and is variable from 01-99 minutes. A 00 entry disables the timer and no automatic disconnect occurs.

The Conference Timer also allows the system administrator to control the time a DISA caller is allowed after establishing a Trunk-to-Trunk call. At the expiration of the Conference Timer, a tone is presented to both DISA parties, then one minute later the system automatically releases both trunks.

The Conference Timer does not affect or control a DISA-to-Station call.

Paging Time-Out Timer

Programming Steps

1. Press the PAGING TIMEOUT TIMER flex button **(FLASH 01, Button #10)**. The following message displays:

```
PAGING TIMEOUT            00-60
15
```

2. Enter a valid number on the dial pad that corresponds to 01-60 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Paging Time-Out Timer determines the maximum length of a page announcement (internal, external or all call). The system automatically disconnects the page at the end of this time unless the person making the page has already hung up. By default, the Paging Time-out Timer is set at 15 seconds and is variable from 01-60 seconds. A 00 entry disables the timer and pages are not limited in length. *This affects the use of the Meet Me Page feature.*

CO Ring Detect Timer

Programming Steps

1. Press the CO RING DETECT TIMER flex button **(FLASH 01, Button #11)**. The following message displays:

```
CO RING DETECT              2-9
3
```

2. Enter a valid number on the dial pad that corresponds to 2-9 (200 ms to 900 ms).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The CO Ring Detect Timer controls the time necessary to detect an outside line ringing into the system.

By default, the CO Ring Detect Timer is set at 3 (300 ms), and is variable from 2-9 (200 ms to 900ms). There is no 0 or 1 entry.

SLT DTMF Receiver Timer

Programming Steps

1. Press the SLT DTMF RECEIVER TIMER flex button **(FLASH 01, Button #12)**. The following message displays:

```
SLT RCVR TIMER              005-100
020
```

2. Enter a valid number that corresponds to 005–100 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Single line telephones require the use of a DTMF receiver when going off-hook and dialing. When SMDR or toll restriction (via COS assignments) is enabled, a DTMF receiver monitors and screens the SLT digits for the duration of this timer. By adjusting this timer, the system administrator may free system DTMF receivers sooner if system SLT traffic is heavy, or provide a longer monitoring period if toll restriction becomes a problem.

Note that when LCR is enabled, the DTMF receivers are released when the expected number of digits are dialed as entered in the LCR database.

By default, the SLT DTMF Receiver Timer is set at 20 seconds and is variable from 005-100 seconds.

Message Wait Reminder Tone

Programming Steps

1. Press the MESSAGE WAIT REMINDER TONE flex button **(FLASH 01, Button #13)**. The following message displays:

```
M / W  TONE  TIMER          000-104
000
```

2. Enter a valid number on the dial pad that corresponds to 000-104 minutes.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Message Wait Reminder Timer determines the time between repeated reminder tones to a key telephone with a message waiting. Digital station users may be reminded of a message waiting on their telephone with an audible signal presented at a timed interval.

By default, the Message Wait Reminder Tone is set at 000 (disabled) and is variable from 000-104 minutes.

SLT Hook Flash Timer

Programming Steps

1. Press the SLT HOOK FLASH TIMER flex button **(FLASH 01, Button #14)**. The following message displays:

```
HOOK  SWITCH  TIME          05-20
10
```

2. Enter a valid number on the dial pad that corresponds to 0.5-2.0 seconds in 1/10 second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The SLT Hook Flash Timer determines how long an SLT user presses the hook switch for it to be considered a valid on hook (disconnect) request. An on-hook shorter in duration (but longer than the Hook Switch Bounce Timer) is considered a Hook Flash (transfer) request. Refer to *Figure 2-1*.

By default, the SLT Hook Flash Timer is set at 10 (one second) and is variable from 0.5-2.0 seconds.

Some SLTs have a fixed or programmable Flash Timer (Flash or Tap button). This Hook Switch Timer must be set longer than the SLT Flash Timer to allow Hook Flash transfer.

SLT Hook Flash Debounce Timer

Programming Steps

1. Press the SLT HOOK FLASH DEBOUNCE TIMER flex button **(FLASH 01, Button #15)**. The following message displays:

```
HOOK SWT BOUNCE          000-100
030
```

2. Enter a valid number on the dial pad that corresponds to 0-1 seconds in 10 ms increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The SLT Hook Flash Debounce Timer determines the time needed to determine a valid on-hook or off-hook condition for single line telephones. On-Hook or Off-Hook signals that are shorter in duration than this timer are ignored by the system. Refer to *Figure 2-1*.

By default, the SLT Hook Flash Debounce Timer is set to 0.30 seconds and is variable from 0-1 seconds in 10 ms increments. This is a 3-digit entry where 010 equals 0.1 seconds.

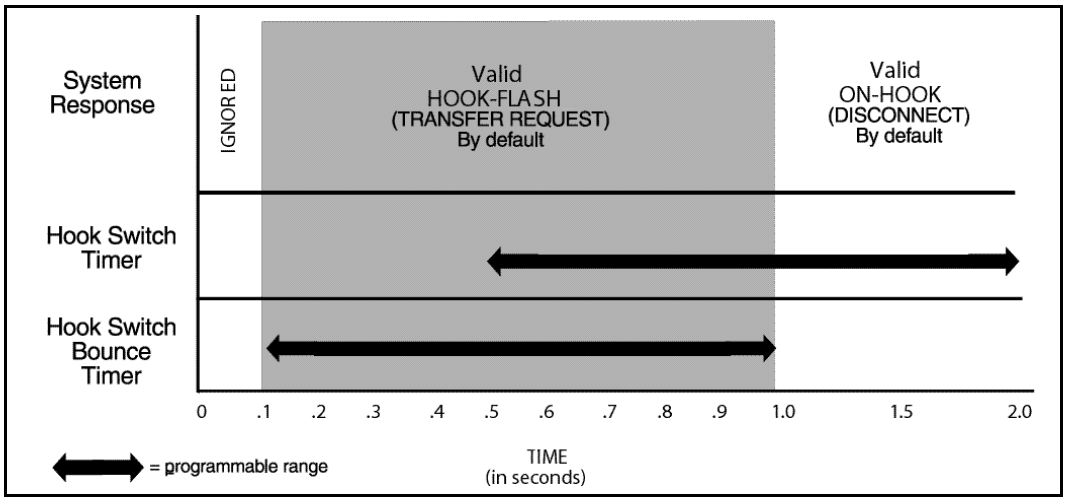


Figure 2-1: Hook Switch Activity

SMDR Call Qualification Timer

Programming Steps

1. Press the SMDR CALL QUAL TIMER flex button **(FLASH 01, Button #16)**. The following message displays:

```
SMDR CALL QUAL          00-60
30
```

2. Enter a valid number on the dial pad that corresponds to 00-60 seconds in 1-second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The SMDR Call Qualification Timer determines the time needed to determine a valid SMDR call for reporting purposes. By default, the SMDR Call Qualification Timer is set to 30 seconds and is variable from 00-60 seconds in 1-second increments.

Automatic Call Back Timer

Programming Steps

1. Press the AUTO CALL BACK TIMER flex button **(FLASH 01, Button #17)**. The following message displays:

```
AUTO CALL BACK          00-99
03
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds in 1-second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Automatic Call Back Timer invokes a call back anytime a user listens to busy tone for a programmable period of time. By default, the Automatic Call Back Timer is set for 03 seconds (enabled), and is variable from 00-99 seconds. A value of 00 disables this timer. An Automatic Call Back does not occur when this timer is disabled.

Reminder Ring Timer

Programming Steps

1. Press the REMINDER RING flex button **(FLASH 01, Button #18)**. The following message displays:

```
REMINDER RING              00-99
00
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds in 1-second increments. A value of 00 disables the timer, therefore the user only receives one ring burst at the beginning of the call.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

When a CO line rings at a busy station, the call rings at the station using muted ringing. The CO Line Ringing Option feature enables a user to receive a reminder ring instead of muted ring. This timer provides a reminder ring every time the timer expires, as long as the incoming CO line remains connected.

If the user continues their present conversation and the CO party does not hang up, the Reminder Ring timer expires and the user receives another ring burst. When the key set user ends the existing call, ringing for the CO call reverts to normal ringing.

By default, the Reminder Ring Timer is set to 00 second and is variable from 00-99 seconds in 1-second increments.

Inter-Digit Time-Out

Programming Steps

1. Press the INTER-DIGIT TIMEOUT flex button **(FLASH 01, Button #20)**. The following message displays:

```
INTERDIGIT T/O             01-99
05
```

2. Enter a valid number on the dial pad that corresponds to 01-99 seconds in 1-second increments.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Inter-Digit Time-Out feature provides inter-digit time-out programming on a system-wide basis and applies to intercom and LCR calls. DISA, DID. TIE inter-digit time-outs remain unaffected by this timer. By default, the Inter-Digit Time-out is set for 5 seconds, and is variable from 1–99 seconds.

Additional System Timers

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

Press **FLASH** and dial **[02]**. The following message displays:

```
SYSTEM TIMERS
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps necessary to program additional System Timers in the Timers programming area.

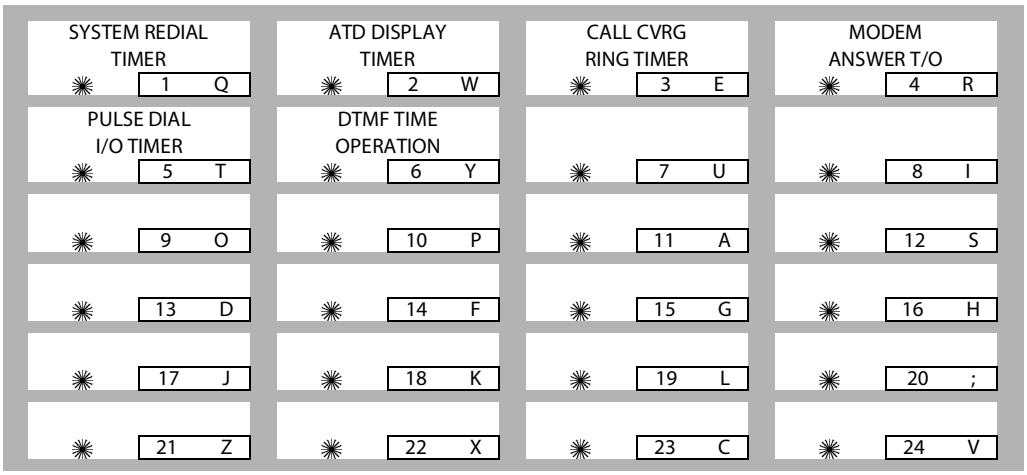


Table 2-2: Additional System Timers Defaults

Program Code	Flex Button	Feature	Default (after initialization)
Additional System Timers			
FLASH 02	1 2 3 4 5 6	Repeat Redial Timer ATD Display Timer Call Coverage Ring Timer Modem Answer Time-out Pulse Dial Inter-Digit Timer DTMF Time Operation	060 seconds 01 seconds 5 seconds 25 seconds 300 ms 100 ms ON / 100ms OFF

Repeat Redial Timer

Programming Steps

1. Press the RPT REDIAL TIMER flex button **(FLASH 02, Button #1)**. The following message displays

```
RPT REDIAL                    006-999
060
```

2. Enter a valid number that corresponds to 006-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Repeat Redial Timer lets a digital key station press a flexible button or dial a code and redial a busy or no-answer number at specific intervals. The user is signaled via a queue callback indication.

The Redial flexible button flashes at the callback rate of 120 ipm for 15 seconds.

- If station does not answer within 15 seconds, the callback is cancelled.
- If station is busy with an internal/external call when the Redial queue callback occurs, the callback occurs after the user goes on-hook.

By default, the Repeat Redial Timer is set for 1 minute (60) and is variable from 006-999 seconds.

Attendant Display Timer

Programming Steps

1. Press the ATTENDANT DISPLAY TIMER flex button **(FLASH 02, Button #2)**. The following message displays:

```
ATTENDANT DISPLAY             00-99
01
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Attendant Display Timer modifies the way in which multiple calls ringing at the attendant station display. Currently, if two calls are ringing at an attendant station, when the station goes off hook, the first call is answered. The LCD updates to show the second call that is ringing which sometimes does not allow the station to view the current call's LCD information. This timer keeps the current call's information on the LCD for the set time period, then shows any other calls ringing in at the time.

By default, the Attendant Display Timer is set for 1 second and is variable from 00-99 seconds.

Call Coverage Ring Timer

Programming Steps

1. Press the CALL CVRG RING TIMER flex button **(FLASH 02, Button #3).** The following message displays:

```
CALL COVERAGE RING          00-99
05
```

2. Enter a valid number on the dial pad that corresponds to 00-99 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A Call Coverage Ring Timer enables the user to place another station under a flex button. When that station rings with an internal or external call, the DSS button for that station rings or flashes.

By default, the Call Coverage Ring Timer is set for 5 seconds and is variable from 00-99 seconds. A value of 00 results in the LED flashing but the call coverage station does not ring.

Modem Answer Timer

Programming Steps

1. Press the MODEM ANSWER TIMER flex button **(FLASH 02, Button #4)**. The following message displays:

```
MODEM ANSWER T/O            025-999
25
```

2. Enter a valid number on the dial pad that corresponds to 025-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Modem Answer Timer determines how long the On Board modem provides a carrier tone to a distant modem. If a connection is not made at the end of this timer, the On Board modem hangs up.

By default, the Modem Answer Timer is set for 25 seconds and is variable from 25-999 seconds.

Pulse Dial Inter-Digit Timer

Programming Steps

1. Press the PULSE DIAL I/D TIMER flex button **(FLASH 02, Button #5)**. The following message displays:

```
INT DIGIT PULSE              300-600
300
```

2. Enter a valid number on the dial pad that corresponds to 300-600 ms.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

This governs the inter-digit time of the Pulse Dial Digits, rotary dial mode.

By default, the Pulse Dial Ring Timer is set for 300 ms and is variable from 300-600 ms.

DTMF On/Off Time Operation

Programming Steps

1. Press the DTMF TIME OPERATION flex button **(FLASH 02, Button #6)**. The following message displays:

```
DTMF ON/OFF TIME             1-9
1
```

2. Enter a valid number (1-9) on the dial pad for the DTMF On and Off Times (100-900 ms).
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The DTMF On/Off Time feature lets the installer select the DTMF On/Off Time on a system-wide basis. This lets the installer customize the system for certain applications that require more than the standard DTMF Time of 100ms on and 100ms off.

By default, the DTMF Time Operation is set for 100 ms On and 100 ms Off.

System Features 1 Programming

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

Press **FLASH** and dial **[05]**. The following message displays:

```
SYSTEM FEATURES 1
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps necessary to program System Features in the System Features programming area. The buttons on a digital telephone are shown in the following illustration:

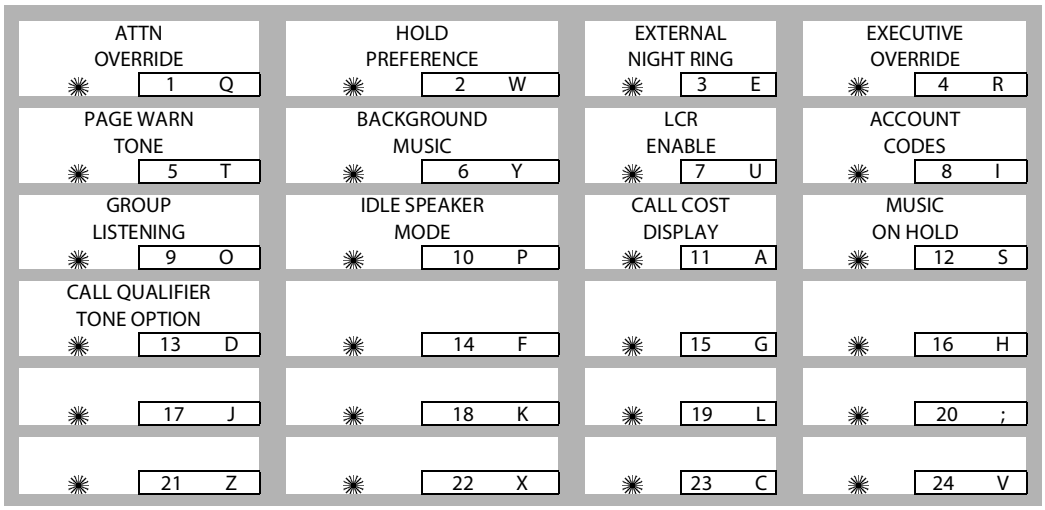


Table 2-3: System Features 1 Defaults

Program Code	Flex Button	Feature	Default (After Initialization)
FLASH 05	1	Attendant Override	Disabled
	2	Hold Preference	System
	3	External Night Ring	Disabled
	4	Executive Warning	Enabled
	5	Page Warning Tone	Enabled
	6	Background Music	Enabled
	7	Least Cost Routing	Disabled
	8	Account Code	Disabled
	9	Group Listening	Disabled
	10	Idle Speaker Mode	Disabled
	11	Call Cost Display Feature	Disabled
	12	Music On Hold	Enabled
	13	Call Qualifier Tone Option	Disabled

Attendant Override

Programming Steps

1. Press the ATTN OVERRIDE flex button **(FLASH 05, Button #1)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
ATTENDANT OVERRIDE          1-0
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

When the Attendant Override feature is enabled, it lets the attendant override a busy station or a station in DND. By default, Attendant Override is disabled.

Attendant Override functions ONLY when the Attendant station is assigned a flex button designated as Attendant Override.

Hold Preference

Programming Steps

1. Press the HOLD PREF flex button **(FLASH 05, Button #2)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:
   [0] = Exclusive Hold
   [1] = System Hold

```
HOLD PREFERENCE             0-1
SYSTEM
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system may be programmed to have Exclusive or System Hold.

- For Exclusive Hold: Press HOLD once for Exclusive Hold, and twice for System Hold.
- For System Hold: Press HOLD once for System Hold, and twice for Exclusive Hold.

Refer to *System Timers* for System and Exclusive Hold recall times. By default, Hold Preference is System Hold.

External Night Ring

Programming Steps

1. Press the EXT NIGHT RING flex button **(FLASH 05, Button #3)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
EXTERNAL NIGHT RING          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

When External Night Ring is set to yes, it activates External Night Ring which produces a tone that is sent over all external page groups.

When outside lines are marked UNA, ringing activates a tone over external paging when an incoming call occurs on those lines during night service. By default, External Night Ring is disabled.

Executive Override Warning Tone

Programming Steps

1. Press the EXEC OVER WARN TONE flex button **(FLASH 05, Button #4)**.
2. Enter a valid number (0 or 1) that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
EXECUTIVE WARNING            0-1
ENABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Executive Override Warning enables Executive stations to override and barge-in on other key sets engaged in conversation on a CO line. Prior to actual cut through of the third party, a warning tone is presented to all parties notifying them of the barge-in. This warning tone, however, is a programmable option on a system-wide basis, that either enables or disables the tone. When the tone is disabled, no audible signal is presented to the parties to signal the barge-in. By default, Executive Override Warning Tone is enabled.

Use of this feature when the Executive Override Warning Tone is disabled may be interpreted as a violation of federal, state, or local laws, and an invasion of privacy. Check applicable laws in your area before intruding on calls using this feature.

A change in volume may occur on the CO line or intercom call after the barge-in occurs. This feature also affects ACD Supervisor Barge-in warning tone.

Page Warning Tone

Programming Steps

1. Press the PAGE WARN TONE flex button **(FLASH 05, Button #5)**.
2. Enter a valid number (0 or 1) that corresponds with the following:
   [0] = Disabled
   [1] = Enabled

```
PAGE WARNING TONE          0-1
ENABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Page Warning Tone determines whether a page warning tone sounds over the Key Telephone speakers or external paging speakers, prior to a page announcement. By default, Page Warning Tone is enabled.

Background Music

Programming Steps

1. Press the BACKGROUND MUSIC flex button **(FLASH 05, Button #6)**.
2. Enter a valid number (0 or 1) that corresponds with the following:
   [0] = Disabled
   [1] = Enabled

```
BACKGROUND MUSIC           0-1
ENABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system can be programmed to let stations activate their Background Music, in addition to Music-On-Hold. A music source must be connected to the BGM/MOH connector on the MISU. By default, the Background Music channel is enabled.

Least Cost Routing (LCR)

Programming Steps

1. Press the LCR ENABLE flex button **(FLASH 05, Button #7)**.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
LEAST COST ROUTING          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

When Least Cost Routing is used, it must be enabled here. Before enabling LCR, refer to the Least Cost Routing section (Flash 75) and programming tables (*Product Description Manual - Appendix C*).

When the tables are programmed, you may then enable LCR for the system. After system initialization, a default LCR database is loaded into the LCR section of memory. By default, LCR is disabled.

Account Codes - Forced

Programming Steps

1. Press ACCOUNT CODES flex button **(FLASH 05, Button #8)** to determine whether the use of Account Codes is forced or optional.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
FORCED ACCOUNT CODE         0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system can force account codes on all restricted calls.

- When the Forced Account Code option is enabled, and the account code is entered, a station's Class of Service is upgraded to day COS1, night COS1.
- If option is disabled, a station's COS is not upgraded but the account code continues to be part of the SMDR record.

By default, using account codes is optional.

Group Listening

Programming Steps

1. Press the GROUP LISTENING flex button **(FLASH 05, Button #9)**.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
GROUP LISTENING          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

All digital key telephones have built-in speakerphones. Station users may use the speaker to monitor a call while using the handset to converse with the outside party. This enables other people in the room to listen to both parties in the conversation. Group listening is unavailable when the station is in the headset mode. By default, Group Listening is disabled.

Idle Speaker Mode

Programming Steps

1. Press the IDLE SPEAKER MODE flex button **(FLASH 05, Button #10)**.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = First digit dialed is Heard (Disabled)
   [1] = First digit dialed is Muted (Enabled)

```
IDLE SPEAKER MODE        0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Idle Speaker Mode feature determines whether the first digit dialed is heard over the digital key telephone speaker. This feature can be enabled or disabled on a system-wide basis. By default, this mode is disabled.

Call Cost Display

Programming Steps

1. Press the CALL COST DISPLAY flex button **(FLASH 05, Button #11)**.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
CALL COST DISPLAY          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Call Cost Display feature lets a user view the approximate cost of each call made. This approximate cost also prints as part of the SMDR record. The Call Cost Display replaces the call duration display when a call is made using LCR. Cost information is programmable in LCR Flash 75. This enables users to program four separate costs based on time of day.

Costs entered in the tables are costs for one minute, however, costs are calculated using 1/10th of a minute value. These costs are rounded down and based on the call start time, even if the call extends into a different time period. The SMDR printout contains a cost calculated using 1/10th of a minute increment, however the station display updates approximately every 30 seconds. The user must use LCR to get the call cost display. By default, the Call Cost Display feature is disabled.

Music-On-Hold

Programming Steps

1. Press MUSIC-ON-HOLD flex button **(FLASH 05, Button #12)**. Feature toggles on/off each time button is pressed; and the display updates.
   [0] = Disabled
   [1] = Enabled

```
MUSIC ON HOLD              0-1
ENABLED
```

2. Press HOLD to save the entry. A confirmation tone sounds.

Description

When connected to the system, a music source provides music to all lines on Hold, parked calls, transferred calls and calls waiting to be answered by Automatic Call Distribution (ACD) or Uniform Call Distribution (UCD).

This feature is allowed or denied on a system-wide basis in programming. By default, Music-On-Hold is enabled.

Call Qualifier Tone

Programming Steps

1. Press the CALL QUAL TONE flex button **(FLASH 05, Button #13)**.
2. Enter a 0 or 1 that corresponds with the following entries:
   [0] = Disabled
   [1] = Enabled

```
CALL QUALIFIER TONE          0-1
DISABLED
```

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Call Qualifier Tone feature is associated with the ACD Call Qualifier code and determines if a confirmation tone sounds after the ACD Call Qualifier code is dialed. If programmed, a confirmation tone sounds.

This feature allows:

- Up to four digits for the ACD SMDR reporting functions that are compatible with the Basic ACD software package.
- Entry of up to twelve digits.

By default, the Call Qualification Confirmation tone is disabled.

System Features 2 Programming

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

Press **FLASH** and dial **[06]**. The following message displays:

```
SYSTEM FEATURES 2
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps necessary to program System Features in System Features programming area. The buttons on the digital telephone are shown below:

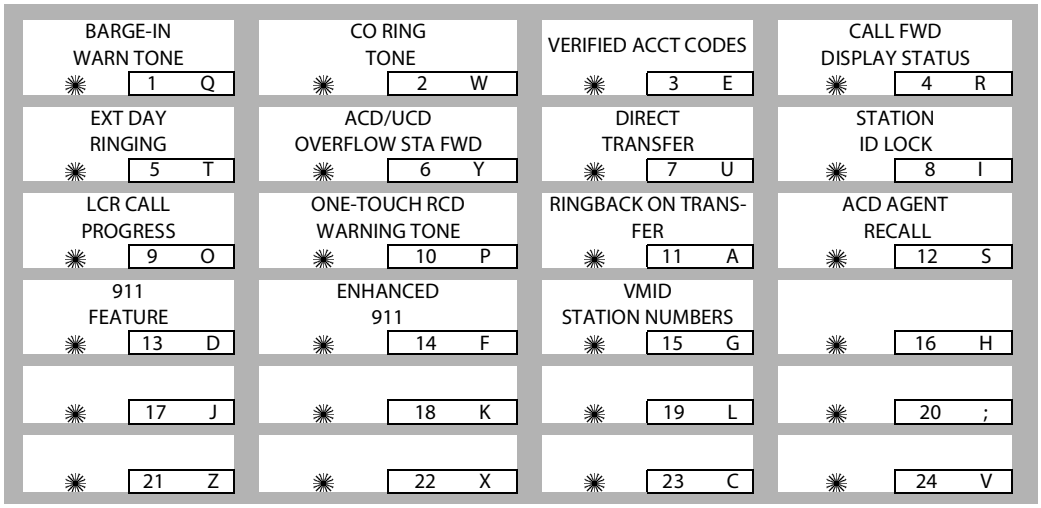


Table 2-4: System Features 2 Defaults

Program Code	Flex Button	Feature	Default (after initialization)
System Features 2			
FLASH 06	1	Barge-In Warn Tone	Enabled
	2	CO Ring Tone	Enabled
	3	Verified Account Codes	Disabled
	4	Call Forward Display Status	Enabled
	5	External Day Ringing	Disabled
	6	ACD/UCD Overflow Sta Fwd	Disabled
	7	Direct Transfer	Enabled
	8	Station ID Lock	Disabled
	9	LCR Call Progress	Enabled
	10	One-Touch Record Warning Tone	Enabled
	11	Ringback on Transfer	Disabled
	12	ACD Agent Recall	Disabled
	13	911 Feature	Disabled
	14	Enhanced 911	Disabled
	15	VMID Station Numbers	Station Numbers=VMID

Barge-In Warn Tone

Programming Steps

1. Press the BARGE IN WARN TONE flex button **(FLASH 06, Button #1)**. The following message displays:

```
BARGE IN WARN TONE          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the conference tone.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Display stations continue to receive the CONFERENCE display regardless of the warning tone setting.

Privacy is ensured on all communications in the system. If desired, the user may elect to disable the Barge In feature, thus allowing up to seven other stations to join existing CO Line conversations.

Disabling of the Barge In feature may be limited by federal, state, or local law, so check the relevant laws in your area before disabling privacy.

Table 2-5: CO Line Barge In Flag

Station Attempting to Access CO Line	CO Line in Use by Another Station	
	Privacy Enabled	Privacy Disabled
Privacy Enabled	Private (no cut-through)	Private (no cut-through)
Privacy Disabled	Private (no cut-through)	Privacy Release (cut-through allowed)

CO Ring Tones

Programming Steps

1. Press the CO RING TONE flex button **(FLASH 06, Button #2)**. The following message displays:

```
CO RING TONES              0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the tone ring signal.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The ring tone signal that notifies stations of an incoming call can be changed in administrative programming to provide distinctive ringing on a per CO line basis. A distinctive ring tone can be programmed for each CO line that rings each station.

The system provides 36 different ring patterns that can be selected for CO lines in the system. By default, CO Ring Tones is enabled.

Verified Account Codes

Programming Steps

1. Press the VERIFIED ACCT CODES flex button **(FLASH 06, Button #3)**. The following message displays:

```
VERIFIED ACCT TONES        0-1
DISABLED
```

2. Enter 0 or 1 on the dial pad to enable/disable Verified Account Codes.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Verified Account Code/Traveling Class of Service (COS) feature provides tracking of specific calls by entering a verified, variable length (up to 12-digits) identifier. Each account code can be assigned a day and night Class-of-Service for determining the dialing privileges allowed by that account code. This lets users override a restricted station.

If the dialed account code matches the Verified Account code table, an intercom dial tone is returned, otherwise an error tone is returned. SMDR must be enabled for the account code to print as part of the SMDR record. *DVX^{Plus}II/III/IV* allows up to 250 12-digit account codes programmed in at FLASH 31. By default, Verified Acct Codes are disabled.

Call Forward Display

Programming Steps

1. Press the CALL FWD DISPLAY STATUS flex button **(FLASH 06, Button #4)**. The following message displays:

```
CALL FWD DISPLAY          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable Call Forward Display.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

When call forwarding is invoked, the LCD display normally indicates the call forwarding mode at all times.

This feature is enabled/disabled in administrative programming on a system-wide basis. By default, Call Forward Display is enabled.

External Day Ring

Programming Steps

1. Press the EXT DAY RINGING flex button **(FLASH 06, Button #5)**. The following message displays:

```
EXTERNAL DAY RING         0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable External Day Ring.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system can be programmed so CO lines marked for UDA provides ringing out of the external page ports when the system is in the Day Mode. By default, External Day Ringing is disabled.

Overflow Station Forward

Programming Steps

1. Press the ACD/UCD OVERFLOW STA FWD flex button **(FLASH 06, Button #6)**. The following message displays:

```
OVERFLOW STA FWD          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Overflow Station Forward feature allows ACD/UCD calls reaching the ACD/UCD Overflow Station to call forward to another station. This enhancement is allowed or denied on a system-wide basis. Once enabled in programming:

- An ACD/UCD Overflow station can Busy/No-Answer forward to Voice Mail Groups, ACD/UCD Groups, Hunt Groups and stations.
- If the ACD/UCD Overflow station is busy or does not answer before the no-answer call timer expires, the ACD/UCD call forwards to the destination.

By default, this feature is disabled.

Direct Transfer Mode

Programming Steps

1. Press the DIRECT TRANSFER flex button **(FLASH 06, Button #7)**. The following message displays:

```
DIRECT XFER               0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

When enabled, supervised transfers (screened transfers) to stations in the handset mode connect calls directly to the handset. The station user must have a direct appearance of that CO line or a Loop button. This feature is programmed on a system-wide basis. By default, the Direct Transfer Mode is enabled.

Station ID Lock

Programming Steps

1. Press the STATION ID LOCK flex button **(FLASH 06, Button #8)**. The following displays:

```
STATION LOCK                0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Station ID Lock feature enables the installer/programmer to lock the station ID of all extensions on the system. It also prevents the loss of station programming that results when a different station type is plugged into a port already designated as another station type. This feature is programmed on a system-wide basis. By default, the Station ID Lock feature is disabled.

The proper procedure(s) for changing the Station ID with the Station ID Lock feature enabled:

1. Enter programming mode and disable the Station ID Lock feature.
2. Plug the new device type into the jack. Set is automatically identified.
3. Enter programming mode and disable the Station ID Lock feature.
4. Enter programming and perform Station ID programming (FLASH 50/51, Page B, Button #1). Set is automatically identified.

LCR Call Progress

Programming Steps

1. Press the LCR CALL PROGRESS flex button **(FLASH 06, Button #9)**. The following message displays:

```
LCR CALL PROGRESS           0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The LCR CALL PROGRESS Feature allows the installer to select whether users hear call progress indications on a system-wide basis. By default, LCR Call Progress feature is enabled.

If this feature is disabled, a confirmation tone is given after the last digit is dialed. The user does not hear the line being seized or the outpulsing of digits to the Central Office.

One-Touch Recording Warning Tone

Programming Steps

1. Press the ONE-TOUCH RCD WARNING TONE flex button **(FLASH 06, Button #10)**. The following message displays:

```
RECORDONG WARN TONE        0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The One-Touch Recording Warning Tone feature lets the installer enable/disable the One-Touch Recording Warning Tone on a system-wide basis. By default, the Recording Warning Tone is enabled.

Use of this feature when the One-Touch Recording Warn Tone is disabled may be interpreted as a violation of federal, state, or local laws, and an invasion of privacy. Check applicable laws in your area before recording calls using this feature.

Ringback on Transfer

Programming Steps

1. Press the RINGBACK ON TRANSFER flex button **(FLASH 06, Button #11)**. The following message displays:

```
RINGBACK ON XFER           0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled (Music)

   [1] = Enabled (Ringback Tone)
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Ringback on Transfer feature provides on a system-wide basis music on hold or ringback tone to the CO caller when CO calls are transferred. Callers currently hear music. By default, the Ringback on Transfer feature is disabled.

ACD Agent Recall

Programming Steps

1. Press ACD AGENT RECALL button **(FLASH 06, Button #12)**. The following message displays:

```
ACD AGENT RECALL          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The ACD Agent Recall allows/disallows calls that have been transferred from an ACD Agent to recall the Agent.

911 Feature

Programming Steps

1. Press the 911 FEATURE flex button **(FLASH 06, Button #13)**. The following message displays:

```
911 FEATURE               0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.
   [0] = Disabled
   [1] = Enabled

Description

The 911 Feature allows stations in the system to dial 911 without using an access code. 911 calls are placed on 911 marked lines. If all lines are busy, an existing call is dropped and the 911 call is placed.

When feature is enabled, Trunk Group/LCR Access Code 9 is not available.

Enhanced 911 (Proctor PBX-ANI-LINK Unit)

Programming Steps

1. Press the ENHANCED 911 button **(FLASH 06, Button #14)**. The following message displays:

ENHANCED 911 DISABLED	0-1

2. Enter a 0 or 1 on the dial pad to enable/disable the use of this feature.

   [0] = Disabled

   [1] = Enabled

Description

The Enhanced 911 feature enables enhanced 911 integration with the Proctor PBX-ANI-LINK product. Loop Start lines can be connected to the Proctor unit and programmed to be 911 lines (FLASH 40, PAGE A, Button 15). When a 911 call is made from a station in the system, the system will send 911XXXX (XXXX=Station # that placed the 911 call) in DTMF format to the Proctor. If the station number is less than 4 digits, a leading 0 will automatically be added. The Proctor unit then accesses a call trunk and sends the information in the proper format to the 911 Center.

Conditions

- The 911 Feature (FLASH 06, button 13) must also be enabled for the Proctor Integration to work.
- Only the lines connected to the Proctor should have the 911 Enable programmed (FLASH 40, PAGE A, Button 15).
- It is recommended to have a power failure procedure in place to ensure that 911 calls are always routed. Refer to FLASH 09, Button 7 for programming information.

VMID Station Numbers

Programming Steps

1. Press VMID STATION button **(FLASH 06, Button #15)**. The following message displays:

```
VMID SAME AS STA #
PRESS HOLD
```

2. Press HOLD to save the entry. A confirmation tone sounds.

Description

The VMID Station Numbers feature must be used **after** changing station numbers with the Flexible Numbering feature. Voice Mail ID numbers will be changed to match current station numbers once HOLD is pressed. (Eliminates need for technician to program individual VMID numbers.)

This feature should be accomplished after the flexible numbers are assigned. Implementing this feature could cause the VM box numbers to be re-programmed.

Programmable Flash Rates

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

Press **FLASH** and dial **[07]**. The following message displays:

```
SYSTEM FLASH RATES
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps necessary to program the Flash Rates in the Flash Rates Programming area. The buttons on the digital telephone are shown in the following illustration:

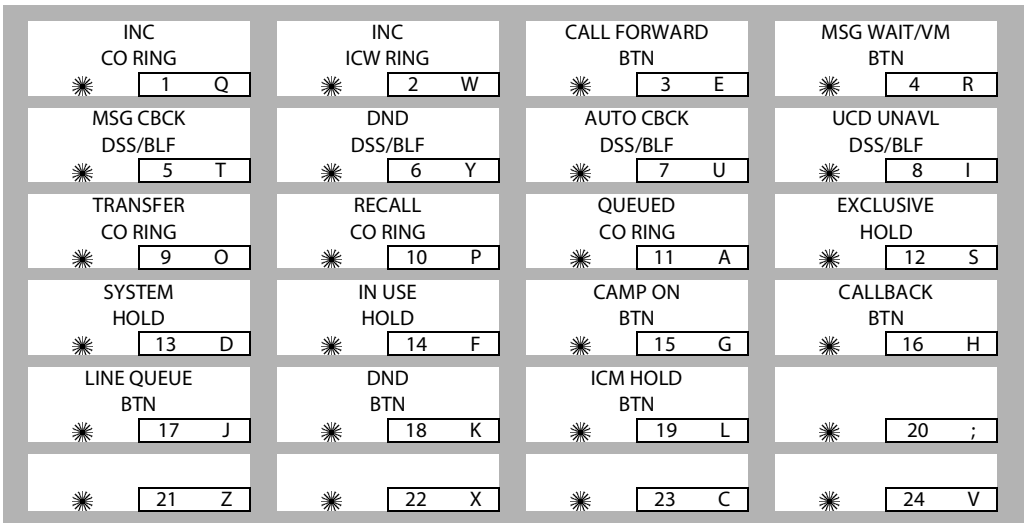

INC CO RING 1 Q
INC ICW RING 2 W
CALL FORWARD BTN 3 E
MSG WAIT/VM BTN 4 R
MSG CBCK DSS/BLF 5 T
DND DSS/BLF 6 Y
AUTO CBCK DSS/BLF 7 U
UCD UNAVL DSS/BLF 8 I
TRANSFER CO RING 9 O
RECALL CO RING 10 P
QUEUED CO RING 11 A
EXCLUSIVE HOLD 12 S
SYSTEM HOLD 13 D
IN USE HOLD 14 F
CAMP ON BTN 15 G
CALLBACK BTN 16 H
LINE QUEUE BTN 17 J
DND BTN 18 K
ICM HOLD BTN 19 L
20 ;
21 Z
22 X
23 C
24 V

Table 2-6: Flash Rates

Red LED Flash Rates		Green LED Flash Rates	
00	Off	15	Steady On
01	Steady On	16	30 ipm Flash
02	30 ipm Flash	17	60 ipm Flash
03	60 ipm Flash	18	60 ipm Dbl Wink
04	60 ipm Dbl Wink	19	240 ipm Flash
05	240 ipm Flash	20	240 ipm Flutter
06	240 ipm Flutter	21	480 ipm Flash
07	480 ipm Flash	22	480 ipm Flutter
08	480 ipm Flutter	23	15 ipm Flash
09	15 ipm Flash	24	120 ipm Flash
10	120 ipm Flash	25	120 ipm Flutter
11	120 ipm Flutter	26	30 ipm Dbl Flash
12	30 ipm Dbl Flash	27	480 ipm Dbl Wink
13	480 ipm Dbl Wink	28	480 ipm Dbl Flash
14	480 ipm Dbl Flash		

Incoming CO Line Ringing

Programming Steps

1. Press the INC CO RING flex button **(FLASH 07, Button #1)**. The following message displays:

```
INC CO RING                  00-28
RED 480 IPM FLUTTER
```

2. Enter a valid number (00-28) on the dial pad that correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Incoming CO Line Ringing flash rate is the rate at which an Incoming CO line or Loop Button flashes. This flash rate can be programmed to 29 different options identified in the flash rate table, which enables the programmer to customize the key system configuration to desired flash rates. By default, the Incoming CO Ringing flash rate is set for RED 480 ipm Flutter (08).

Incoming Intercom Ringing

Programming Steps

1. Press the INC ICM RING flex button **(FLASH 07, Button #2)**. The following message displays:

```
INC ICM RING                 00-28
RED 120 IPM FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. Refer to *Table 2-6: Flash Rates*.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Incoming Intercom Ringing flash rate is the rate an Incoming DSS button flashes if you have a DSS appearance for the calling station. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates.

By default, the Incoming Intercom Ringing flash rate is set for Red 120 ipm Flutter (11).

Call Forward Button

Programming Steps

1. Press the CALL FORWARD BTN flex button **(FLASH 07, Button #3)**. The following message displays:

```
CALL FORWARD BTN          00-28
RED  STEADY  ON
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Call Forward Button flash rate is the rate at which the Call Forward button flashes when any type of forward mode is used. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Call Forward Button flash rate is set for a Red Steady On (01).

Message Wait / VM Button

Programming Steps

1. Press the MSG WAIT/VM BTN flex button **(FLASH 07, Button #4)**. The following message displays:

```
MSG WAIT / VM BTN         00-28
RED  STEADY  ON
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Message Wait/VM Button flash rate is the rate at which the Message Wait and VM button(s) flashes when you receive a message/voice mail message. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Message Wait/VM Button flash rate is set for a Red Steady On (01).

The fixed message button should not be used as a Voice Mail button.

Message Callback - DSS / BLF

Programming Steps

1. Press the MSG CBCK – DSS/BLF flex button **(FLASH 07, Button #5)**. The following message displays:

```
MSG CBCK / DSS / BLF          00-28
RED  120  IPM  FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Message Call Back DSS/BLF flash rate is the rate at which a DSS button of a station returning your message flashes. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Message Callback DSS/BLF flash rate is set for a Red 120 ipm Flutter (11).

Do Not Disturb - DSS / BLF

Programming Steps

1. Press the DND – DSS/BLF flex button **(FLASH 07, Button #6)**. The following message displays:

```
DND  DSS / BLF                00-28
RED  60  IPM  DBL  WINK
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Do Not Disturb DSS/BLF flash rate is the rate at which a DSS button of a station flashes when you are in a Do Not Disturb mode. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Do Not Disturb DSS/BLF flash rate is set for a Red 60 ipm Double Wink (04).

Auto Callback - DSS / BLF

Programming Steps

1. Press the AUTO CBCK – DSS/BLF flex button **(FLASH 07, Button #7)**. The following message displays:

```
AUTO CBCK DSS / BLF          00-28
RED 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Auto Callback DSS/BLF flash rate is the rate at which a DSS button of a station returning your call back flashes. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Auto Callback DSS/BLF flash rate is set for a Red 120 ipm Flash (10).

UCD Available / Unavailable - DSS / BLF

Programming Steps

1. Press the UCD UNAVL – DSS/BLF flex button **(FLASH 07, Button #8)**. The following message displays:

```
UCD UNAVL DSS / BLF          00-28
RED 60 IPM DBL WINK
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The UCD Available/Unavailable DSS/BLF flash rate is the rate at which a DSS appearance for a station in ACD/UCD Unavailable mode flashes. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, UCD Available/Unavailable DSS/BLF flash rate is set for a Red 60 ipm Double Wink (04).

Transfer CO Ringing

Programming Steps

1. Press the TRANSFER CO RING flex button **(FLASH 07, Button #9)**. The following message displays:

```
TRANSFER CO RING          00-28
RED 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Transfer CO Ringing flash rate is the rate at which a CO Line button or Loop button flashes when a call is transferred to you. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Transfer CO Ringing flash rate is set for a Red 120 ipm Flash (10).

Recall CO Ringing

Programming Steps

1. Press the RECALL CO RING flex button **(FLASH 07, Button #10)**. The following message displays:

```
RECALL CO RING            00-28
RED 480 IPM FLUTTER
```

2. Enter a valid number on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates

Description

The Recall CO Ringing flash rate is the rate at which a CO Line button or Loop button flashes when a call recalls to your station. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Recall CO Ringing flash rate is set for a Red 480 ipm Flutter (08).

Queued CO Ringing

Programming Steps

1. Press the QUEUED CO RING flex button **(FLASH 07, Button #11)**. The following message displays:

```
QUEUED CO RING              00-28
GREEN  480  IPM  FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Queued CO Ringing flash rate is the rate at which a CO Line button or Loop button flashes when a queued line becomes available. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Queued CO Ringing flash rate is set for a Green 480 ipm Flutter (22).

Exclusive Hold

Programming Steps

1. Press the EXCLUSIVE HOLD flex button **(FLASH 07, Button #12)**. The following message displays:

```
EXCLUSIVE HOLD              00-28
GREEN  120  IPM  FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Exclusive Hold flash rate is the rate at which a CO Line button or Loop button flashes when a call is placed on Exclusive Hold. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Exclusive Hold flash rate is set for a Green 120 ipm Flash (24).

System Hold

Programming Steps

1. Press the SYSTEM HOLD flex button **(FLASH 07, Button #13)**. The following message displays:

```
SYSTEM HOLD                    00-28
RED  60  IPM  DBL  WINK
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The System Hold flash rate is the rate at which a CO Line button or Loop button flashes when a call is placed on System Hold. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, System Hold flash rate is set for a Red 60 ipm Double Wink (04).

In-Use Hold (I-Hold)

Programming Steps

1. Press the IN-USE HOLD flex button **(FLASH 07, Button #14)**. The following message displays:

```
IN-USE  HOLD                   00-28
GREEN  60  IPM  FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The In Use-Hold (I-Hold) flash rate is the rate at which a CO Line button or Loop button flashes when a call is placed on In-Use Hold (I-Hold). This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, In-Use Hold (I-Hold) flash rate is set for a Green 60 ipm Flash (17).

Camp On Button

Programming Steps

1. Press the CAMP ON BTN flex button **(FLASH 07, Button #15)**. The following message displays:

```
CAMP ON BTN                 00-28
RED 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Camp On Button flash rate is the rate at which the Camp On button flashes when you receive a Camp On. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Camp On Button flash rate is set for a Red 120 ipm Flash (12).

Call Back Button

Programming Steps

1. Press the CALL BACK BTN flex button **(FLASH 07, Button #16)**. The following message displays:

```
CALL BACK BTN               00-28
RED 120 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Call Back Button flash rate is the rate at which the Call Back button flashes when a station at which you left a call back request becomes available. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Call Back Button flash rate is set for a Red 120 ipm Flash (10).

Line Queue Button

Programming Steps

1. Press the LINE QUEUE BTN flex button **(FLASH 07, Button #17)**. The following message displays:

```
LINE QUEUE BTN              00-28
RED 480 IPM FLUTTER
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Line Queue Button flash rate is the rate at which the Line Queue button flashes after queueing onto a busy line. This button flashes when the busy line becomes available. This flash rate can be programmed to 29 different options identified in the flash rate table which enables the programmer to customize the key system configuration to desired flash rates. By default, Line Queue Button flash rate is set for a Red 480 ipm Flutter (08).

Do Not Disturb Button

Programming Steps

1. Press the DND BTN flex button **(FLASH 07, Button #18)**. The following message displays:

```
DND BTN                     00-28
RED STEADY ON
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Do Not Disturb Button flash rate is the rate at which your Do Not Disturb button flashes when you place your station in a Do Not Disturb mode. This flash rate can be programmed to 29 different options identified in the flash rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Do Not Disturb Button flash rate is set for Red Steady On (01).

Intercom Hold Button

Programming Steps

1. Press the ICM HOLD BTN flex button **(FLASH 07, Button #19)**. The following message displays:

```
ICM HOLD BTN              00-28
RED 15 IPM FLASH
```

2. Enter a valid number (00-28) on the dial pad to correspond to one of the 29 available options. (Refer to *Table 2-6: Flash Rates*.)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Intercom Hold Button flash rate is the rate at which your Hold button flashes when you receive an intercom call and your station's intercom mode selector switch is in the *T* position. This flash rate can be programmed to 29 different options identified in the Flash Rate table. This enables the programmer to customize the key system configuration to desired flash rates. By default, Intercom Hold Button flash rate is set for a Red 15 ipm Flash (09).

System Parameters

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

Press **FLASH** and dial **[09]**. The following message displays:

```
SYSTEM PARAMETERS
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps necessary to program System Parameters in the System Parameters programming area. The buttons on the digital telephone are shown in the following illustration:

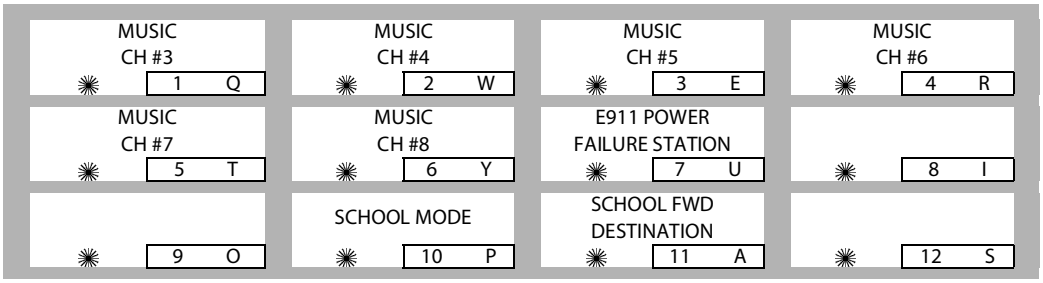


Table 2-7: System Parameters Programming

Program Code	Flex Button	Feature	Default (after initialization)
FLASH 09	1	Music Channel #3*	###
	2	Music Channel #4*	###
	3	Music Channel #5*	###
	4	Music Channel #6*	###
	5	Music Channel #7*	###
	6	Music Channel #8*	###
	7	Proctor 911 Power Failure	###
	10	School Mode	0 = disabled
	11	School Forward Destination	####
** Music Channels 3-8 can only be used for Music-On-Hold functions*			

The leading digit feature is removed in FP3. The leading digit feature is replaced by a networking table (FLASH 16).

MOH Assignments

Programming Steps

1. Press the MUSIC CH # flex button **(FLASH 09, Button #1 through #6)**. The following message displays:

```
MUSIC CHANNEL X      ###, 001-144
YYY
```

X= 3-8
YYY = CO Line number

2. Enter a valid number (001-144) that corresponds to the CO line number desired.
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The MOH Assignments feature enables the system to assign CO line circuits as additional 6 music-on-hold inputs. This increases the capacity of music channels beyond the 2 available on the MISU board for use by MOH sources.

A total of eight channels are available for use on the system. By default, no channels are assigned.

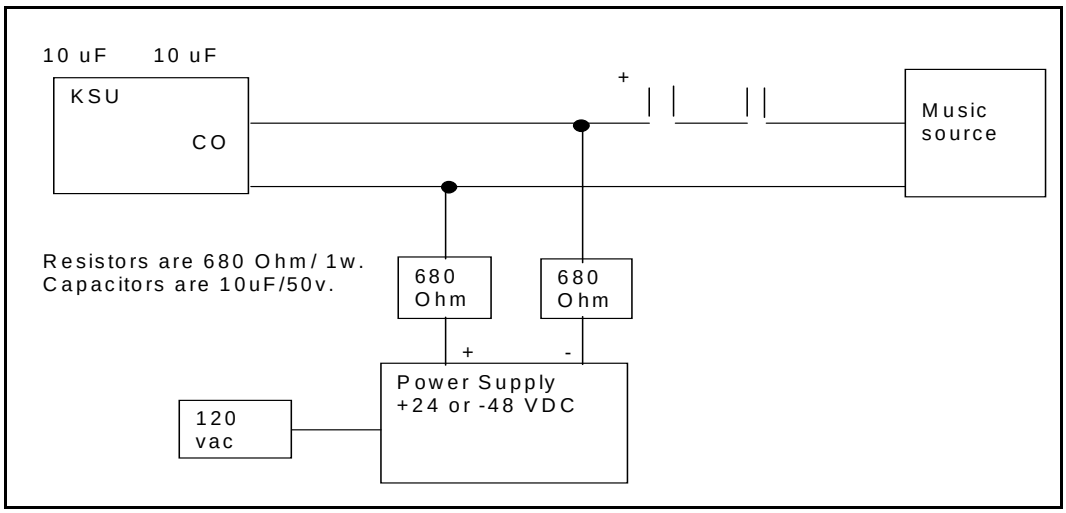


Figure 2-2: Wiring - Music Source to a CO Line

E911 Power Failure Station

Programming Steps

1. Press the E911 POWER FAILURE STATION button **(FLASH 09, Button #7)**. The following message displays:

```
PROCTOR 911 P/F          100-351
###
```

2. Enter a valid SLT station number to be used as the power failure station.
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The power failure signal is designed to be used with the normally open (NO) power failure leads from the Proctor unit connected to an SLT port or SLA device. When the leads close in power failure, this is detected as an off hook and 911 routing ceases to the Proctor unit. 911 calls are sent to Trunk Group 1 until the power failure lead opens, which is detected as an on hook. 911 calls are then routed again to the Proctor unit.

Conditions

- During a power failure, the station's digits are not sent to Trunk Group 1.
- During a power failure, 911 calls are sent on Trunk Group 1.
- The feature requires either an SLT port or an SLA port for the integration to work.

School Zone Call Forwarding

Programming Steps

1. Press **FLASH** and dial **[09]**.
2. Press the SCHOOL MODE flexible button **(Button #10)**. The following message displays:

```
SCHOOL MODE          0, 6, 7, 8, 9
DISABLED
```

3. Dial a valid call forwarding condition code (0 or 6-9).

0 = Disabled
6 = All Call Forward
7 = No Answer Call Forward
8 = Busy Call Forward
9 = Busy / No Answer Call Fwd

4. Press [HOLD]. A confirmation tone sounds.

5. Press the SCHOOL FORWARD DEST flexible button **(Button #11)**. The following message displays:

```
SCHOOL FORWARD DEST
####
```

6. Enter a valid destination number. Valid entries include station numbers, hunt groups, UCD groups, and Voice Mail groups.
7. Press [HOLD]. A confirmation tone sounds.

DEFAULT … The School Mode is Disabled (0) and the School Forward Destination is not assigned (####).

Description

The School Zone feature allows a person at a station(s) specified as an Administrator to control incoming calls for all stations specified as a Classroom. The Administrator controls the type of call forwarding and the call forwarding destination. Call forwarding types include All Call Forward, No Answer Call Forward, Busy Call Forward, and Busy / No Answer Call Forward. Valid call forwarding destinations include station numbers, hunt groups, UCD groups, and Voice Mail groups.

Stations to be included as part of the School Zone feature must be assigned in Admin programming (FLASH 50/51, Page B, Button #7) as either an Administrator station or as a Classroom station. After these assignments have been established, the Administrator can easily control call forwarding for the specified Classroom stations by using feature code 630 (School Zone call forwarding can also be controlled through the use of FLASH 09 in administrative programming).

Conditions

- A station can be assigned as an Administrator or as a Classroom, but not as both.
- A call from an Administrator station to a Classroom station overrides any School Zone call forward settings and the call rings at the Classroom station.
- School Zone call forwarding overrides station user call forwarding and DND.
- If an E-911 button is programmed, both audible and visual alert indications will be provided, regardless of School Zone call forward settings.
- The School Zone call forwarding feature does not apply to a Classroom station that is in a hunt group or an UCD group.
- Feature code 630 and 630# are fixed feature codes that cannot be changed in flexible number programming (FLASH 52).

Attendant Station Assignment

Programming Steps

1. Press **FLASH** and dial **[10]**. The following message displays:

```
ATND STA ASSIGNMENT
100, ###, ###
```

2. Enter a valid station number (100-351) on the dial pad.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The system identifies an attendant station for the purpose of receiving recalls and activating night service. The system can have up to three attendant(s) programmed. Entering [#] three times removes that attendant assignment or different station numbers can be programmed. By default, Station 100 is assigned as the first attendant.

System Time and Date

Programming Steps

To set the time and date that appears on display telephones:

1. Press **FLASH** and dial **[11]**. The following message displays:

```
DATE AND TIME
MMM DD YY          HH:MM am
```

MMM = Month
DD = Day
YY = Year
HH= Hour
MM = Minute

2. Choose display format by pressing the appropriate button in the flexible button field. The time can be displayed in the standard 12-hour format or the 24-hour format.
3. Dial the time and date in the order shown below (2 digits for each entry, for a total of 10 digits):

   Year

   Month

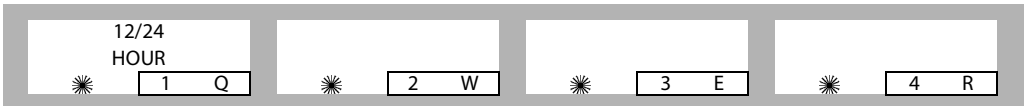
   Day

   Hour

   Minute

To program a pm time after selecting the 12-hour format, use 24-hour numbering, e.g., To program a time of 5:00 pm, enter 17:00.

4. Press HOLD to save the entry. A confirmation tone sounds and the display updates.



By default, the time is set for 12-hour display format. When entering the time and date, use the following data:

LED Off = 12 Hour Display

LED On = 24 Hour Display

The Date and Time can be changed or set by the First Attendant station using dial code [692].

PBX Dialing Codes

Programming Steps

1. Press **FLASH** and dial **[12]**. The following message displays:

```
PBX DIAL CODES
##, ##, ##, ##, ##
```

2. Enter valid numbers (one right after the other) on the dial pad, up to ten digits. If a single digit code is required, enter the code followed by [#].
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
4. To delete a code, enter [#] [#] and press HOLD.

Description

Five 1- or 2-digit PBX access codes can be programmed into memory. When dialed, these codes signal the system so toll restriction is applied at the next dialed digit. When a single digit code [9] is entered, it must be followed by [#] as the second digit. To delete an entry, enter [#] twice and Press HOLD. Lines must be programmed as PBX lines before these codes apply. By default, no PBX dialing codes are assigned. Programming is performed in FLASH 40, Page A, Button 2.

***Table 1** -- Can be set to dial [9] for Centrex 911 calls. If the CO is set to 911, enter **yes** and the unit is on Centrex. This will dial the Centrex 9 (not LCR).*

Executive/Secretary Pairs

Programming Steps

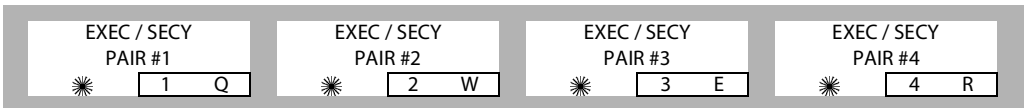
1. Press **FLASH** and dial **[13]**. The following message displays:

```
EXEC SECY PAIRINGS
###, ###        PAIR 1
```

   The first button is lit indicating the first pair may be programmed.
2. Enter a valid Executive station number.
3. Enter a valid Secretary station number.
4. Press HOLD to save the data. A confirmation tone sounds and the display updates.
   - To program a second pair, press the second flexible button in the flexible button field and enter station numbers as in steps 2-4.
   - To program a third pair, press the third button in the flexible button field and enter station numbers as in steps 2-4.
   - To program a fourth pair, press the fourth button in the flexible button field and enter station numbers as in steps 2-4.

Description

There are four Executive/Secretary pairs available. When an Executive station is busy or in DND, intercom calls and transfers are automatically routed to the designated Secretary.



The assigned secretary may Camp On to the Executive Station when the station is busy or in Do-Not-Disturb. There can be only one pairing of stations, with no duplicates. You cannot pair Executive 100 to Secretary 101, then pair Secretary 101 to Executive 100. The same Secretary station can be specified for more than one Executive station (101-105 and 102-105). Entering [#] six times removes the assignments. Individual pairs may be changed by pressing the associated flexible button. By default, no Executive / Secretary pairs are assigned.

On-Board Relay Programming

Programming Steps

1. Press **FLASH** and dial **[14]**. Button #1 is lit to indicate Relay #1 is selected. The following message displays:

```
RELAY X TYPE
YYYYYYYYYYYY
```

X = 1-6
YYYYYYYYYYYY = Ext Page Zone 1-2, LBC Sta XXX, Ran Start X, CO Control XX, PFTU

2. Press the button that corresponds to the desired relay. That button lights. Enter one of the following sequences on the keypad:

   [1] + [1 or 2] First two External Page Zones

   [2] + [1 through 8] = RAN Start (RAN Announcement Tables 1-8)

   [3] = PFTU Control

   [4] + STA # = Loud Bell

   [5] + CO # = CO Line Control

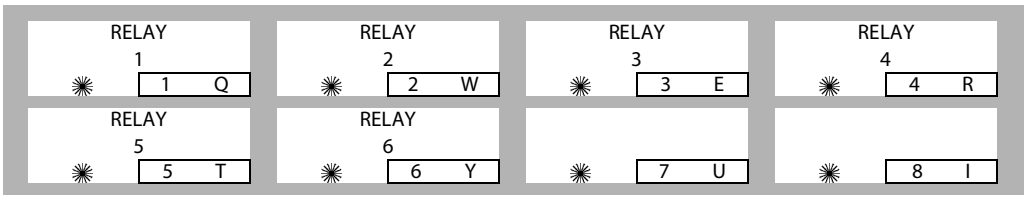
   [0] = Disables Relay

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

   Each time the user presses a relay button, the LCD updates with the relay number and the function assigned to it.

Description

The *DVX*^{Plus}*II/III* has four relays on the MISU and the *DVX*^{Plus}*IV* has six relays on the MISU that can be programmed to perform certain functions. These functions are loud bell, external page control, RAN Start, PFTU control, and CO Line control.



Baud Rate Assignments

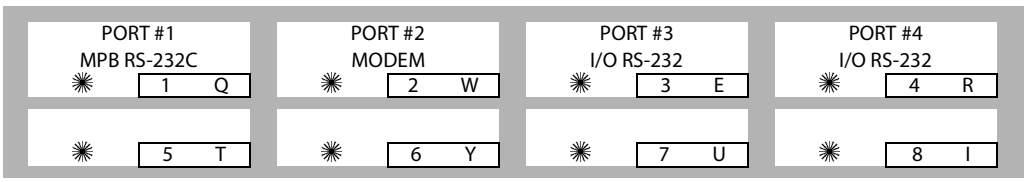
Programming Steps

Press **FLASH** and dial **[15]**. The first button is lit and ready for programming Port #1. The following message displays:

PORT	BAUD
1	9600

Description

The *DVX*^{Plus}*II/III/IV* System provides outputs such as SMDR or ICLID to the standard RS-232 connectors on the MPB or RS-232 on the optional SIU Modules.



Port #1, #3, #4 Baud Rates

Programming Steps

1. Press the desired PORT # flex button **(FLASH 15, Buttons #1, #3, or #4)** to determine the port to program.
2. Enter a 1-digit number for the baud rate:

   [1] = 150 Baud
   [2] = 300 Baud
   [3] = 600 Baud
   [4] = 1200 Baud
   [5] = 2400 Baud
   [6] = 4800 Baud
   [7] = 9600 Baud
   [8] = 19.2K Baud

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

PORT #1 -- On-Board RS-232C port on the MPB.

PORT #3 and #4 -- RS-232 port on the optional SIU2 board.

By default, Port #1 (MPB RS-232C), Port #3 (RS-232) and Port #4 (RS-232) baud rates are set for 9600.

Port #2 Baud Rate

Programming Steps

Press the PORT #2 flex button **(FLASH 15, Button #2)** to verify the baud rate of the On-Board modem. The following message displays:

```
PORT                    BAUD
2                       2400
```

Description

PORT #2 -- On-Board 2400 Baud modem is standard on the *DVX^{Plus}IV* System, but optional on *DVX^{Plus}II/III*. There is no default setting for Port #2. The baud rate for the system is determined by the connecting device (e.g., PC using Ecom or HyperTerminal) and is auto-negotiated by the system. The highest connection rate is 2400 baud, but the system will connect at lower speeds if necessary.

Networking Tables

Description

The Networking Table identifies the system number, the CO group, the range of station numbers, and the IP address. Details on Networking Tables programming is contained in *Appendix A, "Networking Systems,"* and in *Appendix B, "Voice Over the Internet Protocol."*

Access Codes

Programming Steps

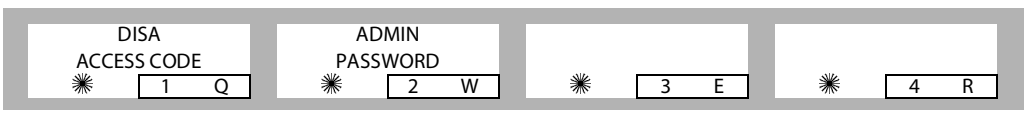
If the system is in the programming mode, continue using program codes. If starting to program here, enter the programming mode.

Press **FLASH** and dial **[20]**. The following message displays:

```
ACCESS CODES
ENTER BUTTON NUMBER
```

Description

This section describes the procedures and steps necessary to program Access codes.



DISA Access Code

Programming Steps

1. Press the DISA ACCESS CODE flex button **(FLASH 20, Button #1)**. The following message displays:

```
DISA ACCESS CODE
100
```

2. Enter a valid number (000–999) on the dial pad for the DISA access code.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The DISA Access Code feature permits assigning a 3-digit access code to the system. Anyone calling on a DISA line must use this code to gain access to system features. To disable the DISA access code, enter (#) three times. By default, 100 is the assigned access code. Use of this feature with or without access code can be abused by callers.

Database Admin Password

Programming Steps

1. Press the ADMIN PASSWORD flex button **(FLASH 20, Button #2)**. The following message displays:

```
ADMIN PASSWORD
3226
```

2. Enter a valid number on the dial pad that corresponds with 0000-9999.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The password used to enter customer database programming can be customized by the programmer. This lets the system administrator block unauthorized personnel from entering database admin.

Care should be taken when changing the programming password so authorized personnel are not locked out, which could prevent or delay them from making necessary programming changes.

Station Message Detail Recording (SMDR)

Programming Steps

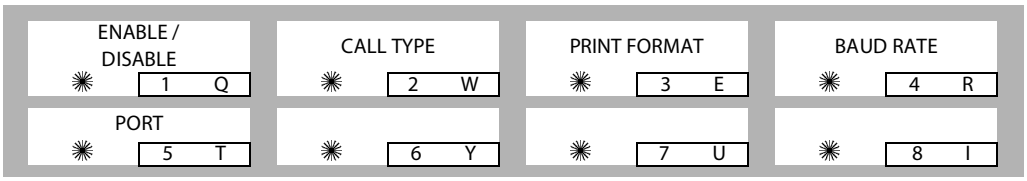
1. Press **FLASH** and dial **[21]**. The following message displays:

```
SDR  TPE  PNT  BAUD  PORT
NO   LD   80   9600  1
```

2. To program SMDR features, use the flexible button(s) as defined in the following procedures.
3. The ENABLE/DISABLE, TYPE, and PRINT features toggle on and off each time the button is pressed. The display updates with each toggle.
4. After all entries are made, press HOLD to save the entry. A confirmation tone sounds.

Description

The *DVX^{Plus}II/III/IV* System can provide SMDR output to the optional RS-232C connectors on the MISU. When SMDR is desired, the following system-wide parameters determine how SMDR information is reported.



SMDR Enable / Disable

Programming Steps

1. Press the ENABLE/DISABLE flex button **(FLASH 21, Button #1)**. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED ON = SMDR is enabled

   LED OFF = SMDR is disabled
2. Press HOLD to save the entry. A confirmation tone sounds

Description

A call accounting device can be installed allowing the system to track calls by outside line number, number dialed, time of day, date, station that placed or received the call, and duration of the call. By default, SMDR is disabled.

Long Distance / All Calls

Programming Steps

1. Press the CALL TYPE flex button **(FLASH 21, Button #2)** to determine the type of calls to record. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED ON = Long Distance is enabled

   LED OFF = All Calls is enabled
2. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system can be set to record all outgoing calls or only outgoing long distance calls. Long Distance calls are defined as beginning with a 1 or 0, or containing eight or more digits. Incoming calls are only recorded if TYPE is set for all calls. By default, the system records long distance (LD) calls only.

Character Print Assignment

Programming Steps

1. Press PRINT FORMAT flex button **(FLASH 21, Button #3)** to determine the print format of SMDR records. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED On = 80-Character is enabled

   LED Off = 30-Character is enabled
2. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system can be programmed to print individual SMDR records in either a 1-line 80-character format or a 3-line 30-character format. By default, the 1-line 80-character format is selected.

Baud Rate Display

Programming Steps

The SMDR Baud Rate is programmed using Flash 15, Baud Rate Assignments. **FLASH 21, Button #4** returns an error tone when pressed. The LCD displays the current baud rate based on which port is assigned to the SMDR Port number.

Description

The *DVX^{Plus}II/III/IV* System provides SMDR output to the standard RS-232C connector on the optional MISU. The baud rate is displayed as 150, 300, 600, 1200, 2400, 4800, or 9600 baud.

SMDR Port Assignments

Programming Steps

1. Press the PORT flex button **(FLASH 21, Button #5)** to determine which port to use for SMDR information.
2. Enter a valid number for the SMDR Port number:

   [1] = Port #1 (MPB On-Board RS-232C)

   [3] = Port #3 (RS-232C on optional SIU)

   [4] = Port #4 (RS-232C on optional SIU)

   The LCD displays the current baud rate based on which Port number is assigned to the SMDR Port number.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

PORT #1-- Refers to the RS-232C connector on the optional MISU.

PORT #3 -- Refers to the RS-232C connector on the optional SIU.

PORT #4 -- Refers to the RS-232C connector on the optional SIU.

By default, Port #1 is used for SMDR.

Weekly Night Mode Schedule

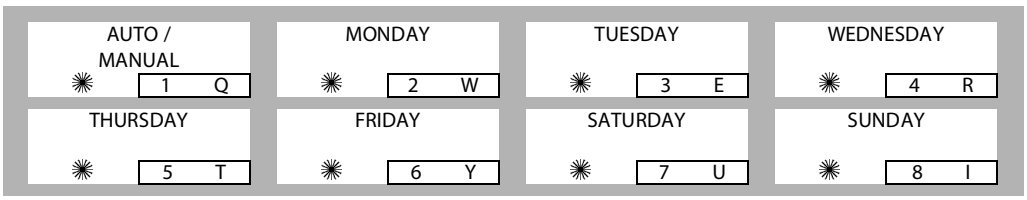
Programming Steps

Press **FLASH** and dial **[22]**. The following message displays:

```
DAY   END    START  AUTO
MON   0800   1700    NO
```

Description

The *DVX*^{Plus}*II/III/IV* System can be programmed so it is automatically placed into and out of night mode. A programmable weekly time schedule lets the system administrator preset the time the system goes into night mode, and the time night mode is removed on a daily basis, including weekend operation.



Automatic/Manual Operation

Programming Steps

1. Press the AUTO/MANUAL flex button **(FLASH 22, Button #1)**. This feature toggles on and off each time the button is pressed. The display updates with each toggle.

   LED On = Automatic Night Mode

   LED Off = Manual operation
2. If no other changes must be made, press HOLD to save the entry. A confirmation tone sounds.

Once enabled, this feature addresses the entire week.

Description

If the system is operated in the automatic night mode the attendant(s) can override the automatic mode by pressing the night key on the attendant(s) phone. The schedule does not go into effect until the attendant(s) press the night key again. When the system is placed into night mode, CO line ringing follows the night ringing assignments and stations are governed by their respective night COS.

The default times for automatic night mode are:

- Monday to Friday 08:00 17:00 (Daytime operation 8:00 am to 5:00 pm)
- Saturday and Sunday ##:## ##:## (24-hour night-mode operation)

  - An entry of 00:00 23:59 indicates 24 hours of day mode.

  - An entry of ##:## ##:## directs the system to ignore these days.

Day of Week Programming

Programming Steps

The MONDAY flex button (Button #2) LED is lit. To change days of the week:

1. Press the appropriate DAY OF WEEK flex button **(FLASH 22, Buttons 2-8)**.
2. Enter a valid number to indicate the hour and minutes to end night mode.
3. Press HOLD to save the entry. (Example: 07301830 [HOLD]) A confirmation tone sounds and the display updates.

Directory Dialing

Programming Steps

To enter, change, erase or view entries in the Directory Dialing list:

Press **FLASH** and dial **[23]**.The following message displays

```
DIR  LST   AAA  /  ICM:  XXXX
nnnnnnnnnnnnnnnnnnnnnnnnnnn
```

AAA = Directory list entry number (000-199)
XXXX = a station number, a system speed dial bin number, or Local Number/Name Translation table number
nnn = programmed name (blank if none)

Selecting a Directory List Entry

1. Press Flexible button #20 for a directory list entry.
2. Dial a valid directory list entry number (000–199).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Scrolling Through the Directory List:

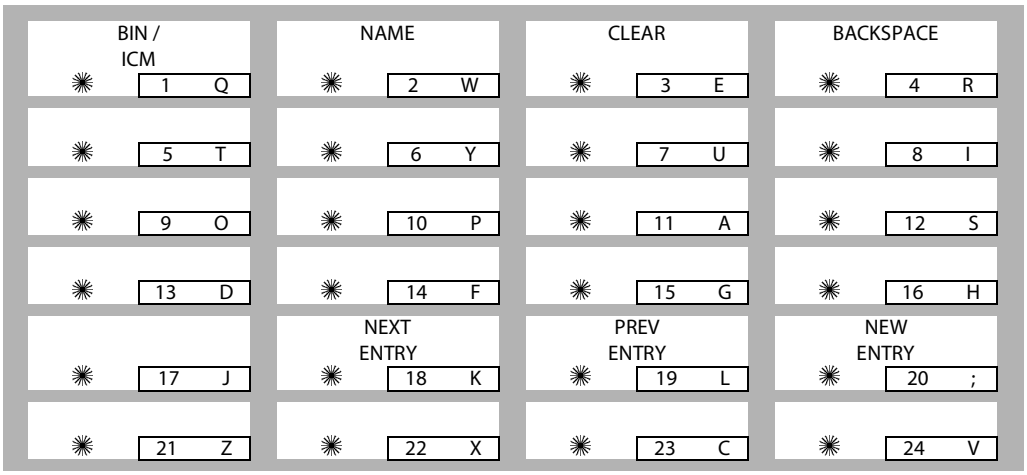
- Press the NEXT flex button **(FLASH 23, Button #18)** to scroll up (next entry).
- Press the PREV flex button **(FLASH 23, Button #19)** to scroll back (previous entry).

Description

Directory Dialing enables station users obtain a directory of station users and have the system dial the extension currently displayed. The *DVX^{Plus}II/III/IV* System provides locations for up to 200 names (000-199). Directory dialing also lets users program a name with a speed dial bin for use in later locating a speed dial number. When prompted, the system displays the name associated with a speed dial number so when the desired name is shown, the user may then have the system dial the number.

Directory Dialing also lets users associate a name with an entry in the local number/name translation table. When prompted, the system displays the name associated with the table so when the desired name is shown, the user may then have the system dial the number. The *DVX^{Plus}II/III/IV* System provides locations for up to 200 names.

The Directory Dialing list may be programmed and maintained at the first assigned attendant station in one of two ways. However, this admin routine lets the directory list be maintained by the system programmer locally (at Station 100) or remotely via modem access.



Associating Number to: Intercom Number or System Speed Dial Bin

1. Press the BIN/ICM flex button **(FLASH 23, Button #1)**.
2. Enter one of the following: a Station Intercom number, a System Speed Dial number, or a Local Number/name Translation Table number.

   100-171 = *DVX^{Plus}II/III* Extension Numbers

   100-351 = *DVX^{Plus}IV* Extension Numbers

   9020–9999 = System Speed Numbers (with expanded memory)

   600-799 = Local Number/Name Table
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

   BIN/ICM – Each entry in the directory dialing list must be associated to a system speed dial bin (for calling a destination outside of the system) or to an intercom station (for calling internal station including CO line transfers).

Entering/Changing Current Name Shown on the Display

1. Press the NAME flex button **(FLASH 23, Button #2)**.
2. Enter the name (up to 24-characters may be entered) by using keys on the dial pad as illustrated on the following page:
3. If an error is made while entering the name, press the BACK SPACE flex button **(FLASH 23, Button #4)**. This button backspaces one character at a time.

Table 2-8: Dial Pad Keys

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

4. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

   Name – A name up to 24-characters may be entered into each directory dial list entry. The names display alphabetically when accessed by a station user. It is possible to have multiple entries that are associated to the same station number or system speed dial bin. This lets the same name be entered into the list several times.

   For example, by last name and by first name, pointed to a station number and a speed dial bin (home, or mobile phone number). Or, several different names associated to the same speed dial bin.

Clearing an Entry

1. Press the CLEAR flex button **(FLASH 23, Button #3)**.
2. Press HOLD to save the entry. A confirmation tone sounds and the display updates. The entry is erased (both the BIN/ICM assignment and the programmed name).

   Clear – Entries in the table may be erased and cleared which allows placement of another entry into the list. When a system speed dial bin is deleted or changed, the name associated to the bin must also be erased. When a multiple table listing is associated to one system speed dial bin it may be necessary to clear more than one entry.

Cabinet/Card Programming

Card Types

Buttons 1 through 12 indicate peripheral card slots 0 through 11. When Cabinet/Card Programming is initially entered, Flex Button #1 LED is lit. This indicates that the user is programming the card in peripheral card slot 0.

Programming Steps

1. Press **FLASH** and dial **[24]**. The following message displays on the display:

```
CABINET 0
ENTER BUTTON NUMBER
```

2. Press the button corresponding to the desired cabinet (CAB). Button 17 for *DVX^{Plus}II/III* or button 17-20 for *DVX^{Plus}IV*. The following message displays on the display:

```
CAB  X  SLOT  XX            00-16
DTIB
```

3. Press the button corresponding to the desired CAB/SLOT location (Buttons 1-12 indicate peripheral card slots 0-11).
4. Enter a valid number for the type of card plugged into the current peripheral card slot.

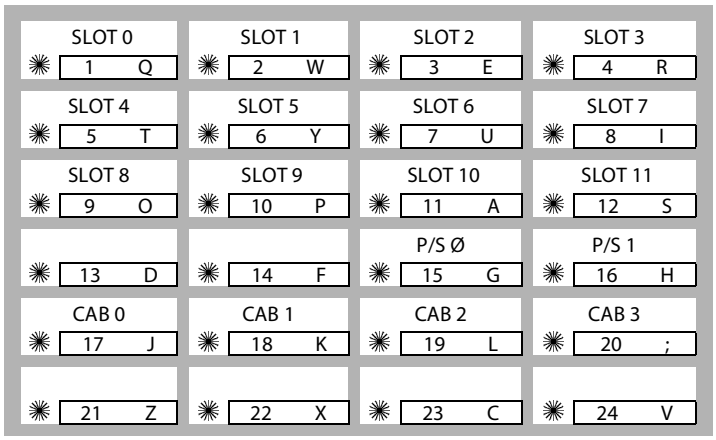
[0] = DELETE CARD	[6] = GCOB	[12] = VOIP
[1] = ETIB	[7] = DIDB	[13] = SL12
[2] = DTIB	[8] = PRIB	[14] = LC08
[3] = DTIBE (DT24)	[9] = T1IB	[15] = LCI8
[4] = SLIB	[10] = BRIB	[16] = SI12
[5] = LCOB	[11] = BR16	

5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Cabinet/Card Programming feature provides a means to assign the peripheral cards to alternative peripheral card slots.

- Station Assignment Numbers: *DVX^{Plus}II/III = 100-171*; *DVX^{Plus}IV = 100-351*
- CO Line Assignment Numbers: *DVX^{Plus}II/III = 001-048*; *DVX^{Plus}IV = 001-144*



DVX^{Plus} II supported slots = 0, 1, 2, 6, and 7.
DVX^{Plus} III and DVX^{Plus} IV supported slots = 0-11.
DVX^{Plus} II/III is programmed as one cabinet, even if the EKSU is installed.
DVX^{Plus} II/III uses Cabinet 0 only. DVX^{Plus} IV can use Cabinets 0-3.
DVX^{Plus} IV is the sole user of the power supply flex buttons

After the card slots have been programmed, the system must be reset for full activation of the database programming to take effect.

Power Supply Types (*DVX^{Plus} IV*)

Programming Steps

1. Press **[15]** for power supply **0** or **[16]** for power supply **1**. The following message displays on the display:

```
POWER SUPPLY 00 TYPE          0-1
  10 AMPS
```

2. Enter a valid number to indicate the current amps (0 for 10 amps or 1 for 15 amps).
3. Press HOLD to save the entry. A confirmation sounds and the display updates.

Hunt Groups

Hunt Group Programming

Programming Steps

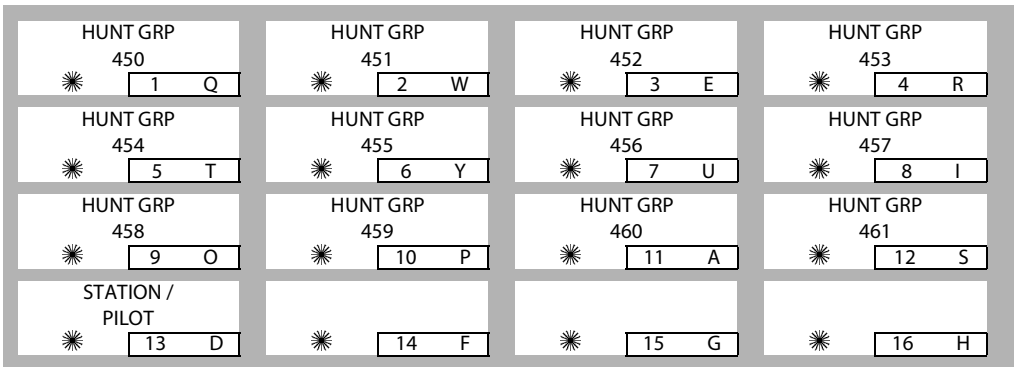
1. Press **FLASH** and dial **[30]**. The following message displays:

```
HUNT 450 PLT ONE   ###, ###,
###, ###, ###, ###, ###, ###
```

   The top left button in the flexible button field is lit for programming Hunt Group 1 (450).
2. To change Hunt Groups or enter a different Hunt Group, press the appropriate flexible button 1-12 (450-461) and perform the following procedures.
3. Enter a valid three-digit station number, or station numbers up to eight stations per group. Hunt groups are joined together by entering another Hunt Group Pilot Number as the last entry of the group.
4. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The system can be programmed for up to 12 Hunt Groups. Each Hunt Group can contain up to 8 stations each. Each Hunt Group can be independently arranged to use a pilot hunting or station hunting technique. If a station is in DND or is forwarded to another station, it is considered busy.



Hunt Group

Programming Steps

1. Press **FLASH** and dial **[30]**.
2. To select the desired Hunt Group, press **Buttons 1-12**.
3. Enter the station number(s) (up to 24 digits and 8 stations). Hunt Groups are joined together by entering another Hunt Group Pilot number as the last entry of the group.

```
HUNT450   AAA  BBB  XXX  XXX
XXX  XXX  XXX  XXX  XXX  XXX
```

4. Press HOLD to save the entry.

Removing Stations from a Hunt Group

1. Enter [#] three times on the dial pad.
2. Press HOLD. A confirmation tone sounds and the display updates. This removes all stations previously programmed in that group.

Description

The Hunt Group feature is used to add and delete stations from a specified Hunt Group.

Station / Pilot / Pilot Ring All -- Hunting Assignments

Programming Steps

1. Press the STATION/PILOT flex button **(FLASH 30, Button #13)** to indicate Pilot, Pilot Ring All Hunting, or Station Hunting.
2. Dial a valid number (0-2):

   [0] = Pilot (Default; shown on LCD as PLT ONE)

   [1] = Pilot Ring All Hunting (shown on LCD as PLT ALL)

   [2] = Station Hunting (shown on LCD as CIR)

458-461 are ONLY for RAN applications.

Description

Pilot Hunting -- Incoming CO, transferred CO, and intercom calls can be directed to a pilot number of a hunt group. The system searches sequentially (in the order the extensions were entered in the database programming) for an idle station in the group and rings that station. Calls directly to stations (by calling the extension number) within the hunt group do not hunt but receive call progress tones from the extension.

Pilot All Ring Hunting -- rings all idle stations in a particular Hunt group at one time.

"All Ring" *hunt groups cannot be chained together.*

Station (Circular) Hunting -- Transferred CO, and intercom calls that are presented to a busy, or DND station, that are members of a Station Hunt Group, search sequentially (in the order the extensions were entered in database programming) for an idle station in the group and rings that station. Direct ringing CO Line calls to the station number ring at the station. If station hunting is desired on a direct ringing call, program the station hunting pilot number in the CO Line ring assignment list. This lets the member of the hunt group to receive private/hunt group calls.

Verified Account Codes / Traveling Class of Service

Programming Steps

1. Press **FLASH** and dial **[31]**. The following message displays:

```
ACCT                          COS
XXXXXXXXXXXX                   ##
```

ACCT = Up to 12-digit account code
COS = Class of Service for account codes

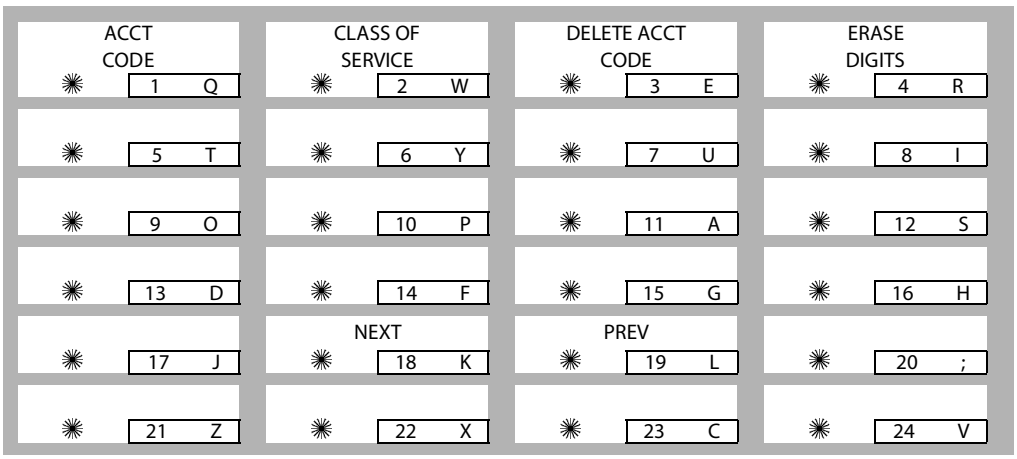
2. Press the ACCT CODE flex button **(FLASH 31, Button #1)**. Enter up to 12 digits (0-9, *, #). [*] represents a do not care digit. The system ignores all digits after this digit when entering an account code. The [#] represents a single do not care digit.
3. Press the CLASS OF SERVICE flex Button **(FLASH 31, Button #2)**. Enter a 2-digit Class of Service Number (1-7) that corresponds to Class of Service 1-7. The first digit represents Day COS and the second digit represents Night COS.
4. Press HOLD to complete the entry. A confirmation tone sounds.

Description

The Verified Account Code/Traveling Class of Service (COS) feature provides tracking of specific calls by entering a verified, variable length (up to 12 digits) identifier. Each account code can be assigned a day and night Class of Service for determining the dialing privileges allowed by that account code. This provides a means for users to override a restricted station.

If the dialed account code matches the Verified Account code table, an intercom dial tone is returned, otherwise an error tone is returned. The use of forced Account Codes is optional, offered on a system-wide basis. SMDR must be enabled for the account code to print as part of the SMDR record. The *DVX*^{Plus}*II/III/IV* System allows up to 250 12-digit account codes and must be enabled in Flash 06, Button 3.

By default, no Account Codes are assigned.



Deleting the Currently Displayed Account Code

1. Press the DELETE CODE flex button **(FLASH 31, Button #3)** to delete the entire account code entry.
2. To display the next account code on the LCD, press the NEXT flex button **(FLASH 31, Button #18)**.
3. To display the previous account code on the LCD, press the PREVIOUS flex button **(FLASH 31, Button #19)**.

   Re-enter the correct digits and press HOLD to complete the entry. A confirmation tone sounds.

Erasing Previously Entered Digits

1. Press the ERASE DIGITS flex button **(FLASH 31, Button #4)**
2. Each press of the button erases one digit. Continue until all desired digits are erased.
3. Re-enter the correct digits and press HOLD to complete the entry. A confirmation tone sounds.

CO Line Group Queuing

Programming Steps

1. Press **FLASH** and dial **[39]**. The following message displays:

```
CO LINE GROUP QUEUING
ENTER BUTTON NUMBER
```

2. Press button 1-24 to select the desired CO Group to be programmed. The following message displays:

```
GROUP 1                          0-1
ENABLED
```

3. Dial a 0 or 1 to enable/disable this feature.

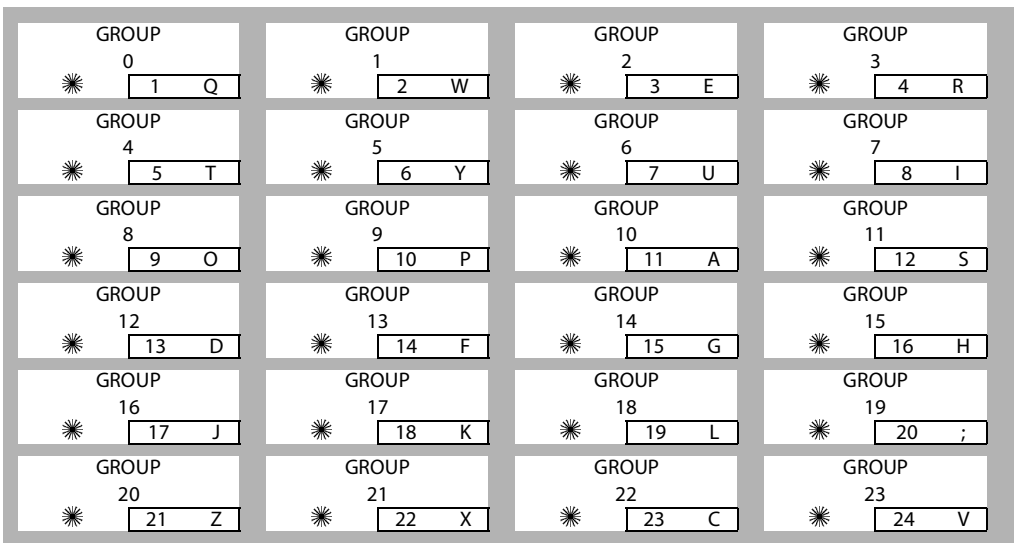
   [0] = Disabled

   [1] = Enabled

4. Press HOLD to save the entry. A confirmation tone sounds.

Description

The CO Line Group Queuing feature allows trunk group queuing to be turned on (enabled) or turned off (disabled) per group.



Local Number/Name Translation Table

Programming Steps

1. Press **FLASH** and dial **[55]**. The following message displays:

```
S - XXX ### ,
```

XXX = Table Number 600-799
= Route Number 000–499

The Route Number LED (Button #1) is lit.

2. Enter a Route Number (000–499) from what was entered in program code, **FLASH [43]**.

Programming a Phone Number into the Translation Table

1. Press the PHONE NUMBER flex button **(FLASH 55, Button #2)** to enter the desired phone number into the translation table. Maximum length of a phone number is 14 digits, including hyphens. Phone numbers must be in the following format: 1-480-XXX-XXXX. (Refer to *Table 2-8: Dial Pad Keys*.)
2. Press HOLD to update the database. The BACK SPACE flex button **(FLASH 55, button #5)** erases current number for error correction.

Programming a Name into the Translation Table

1. Press the NAME flex button **(FLASH 55, Button #3)** to enter the desired name into the translation table. Maximum length is 24 characters. (Refer to *Table 2-8: Dial Pad Keys* for dial pad keys.)
2. Press HOLD to update the database. The BACK SPACE flex button **(FLASH 55, Button #5)** erases the current letter for error correction.

Erasing a Current Phone Number/Name Entry

- Press the CLEAR ENTRY flex button **(FLASH 55, Button #4)** to clear an entire phone number and name from the current index.
- Press the NEXT TABLE flex button **(FLASH 55, Button #18)** to advance to the next index and continue entering information into the translation table.
- Press the PREV TABLE flex button **(FLASH 55, Button #19)** to return to a previous index that is already programmed.

Locating an Existing Index for Editing

1. Press the TABLE NUMBER flex button **(FLASH 55, Button #20)**. The following message displays:

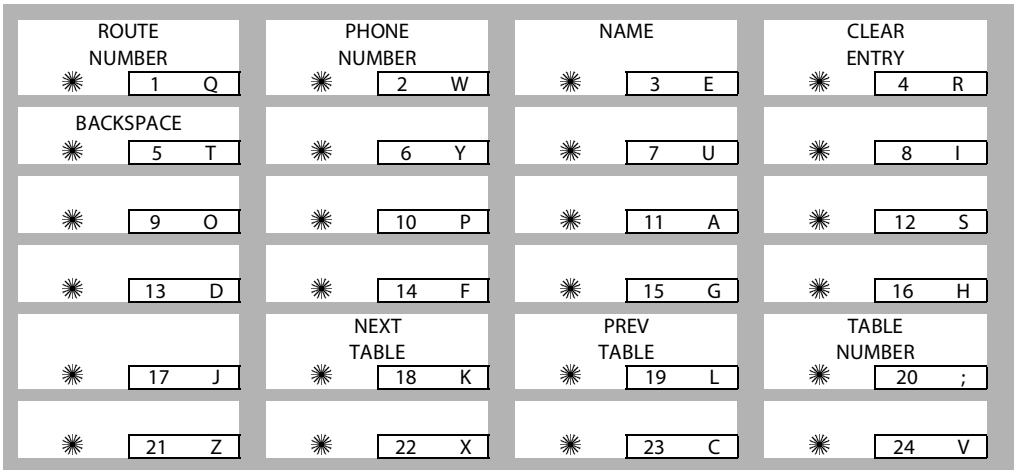
```
ENTER TABLE NUMBER
```

2. Enter a valid number that corresponds to the table numbers 600-799.
3. Press HOLD to complete the entry.

Description

An administrable table in the KSU provides a local translation from a received calling number to a name. This is administrable by the customer from the attendant console position. This table is also shared by the ICLID features. In cases of conflict between the name delivered from the CO and that in the local translation table, the local translation table rules. 200 entries are provided in this table for the *DVX^{Plus}II/III/IV* System.

An option was added to the Local Number/Name translation table to route an ICLID or Caller Entered ID Digits, based on a partial compare with the number entered in the translation table.



If a match is found between a number in the translation table and an incoming call record, the translated name is displayed and/or stored in the unanswered call table.

3 CO Line Attributes Programming

This chapter describes the procedures and steps necessary to program CO Line attributes. If the system is in the programming mode, continue using the program codes. If starting to program here, you must first enter the programming mode. Refer to *Figure 1-2: Programming Button Mapping* in chapter 1.

Page A Introduction

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines (001-144) are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

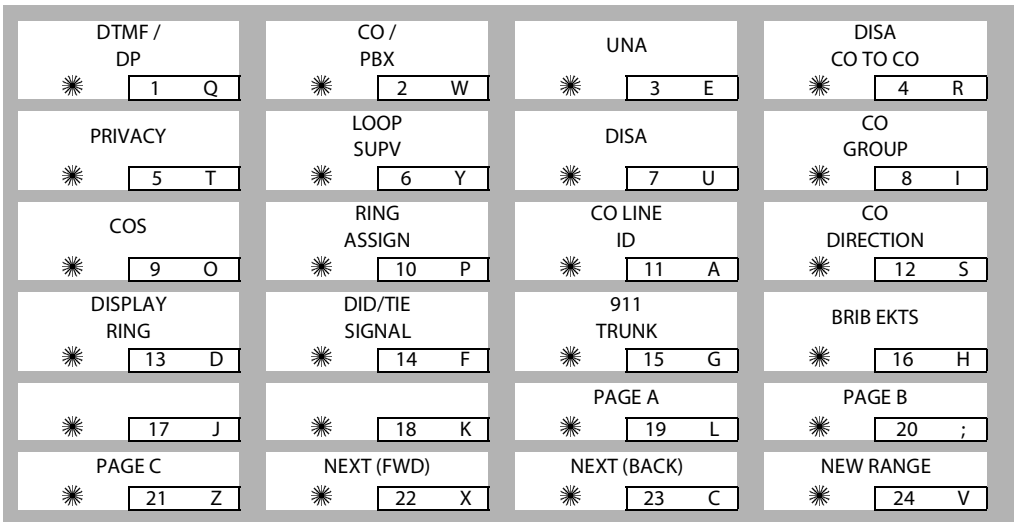
```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range
001-048 = DVXPlus II/III
001-144 = DVXPlus IV

Description

When entering the CO Line attributes portion of the database, the programmer may decide to enter information for a range of CO lines or one specific CO Line.

Range programming lets the programmer change a specific parameter or a few parameters for an entire range of CO Lines leaving intact the remaining data fields that do not require change. Those data fields continue to operate with the previously programmed data. By default, Page A is shown.



DTMF / Dial Pulse Programming

1. Press the DTMF/DIAL PULSE flexible button **(FLASH 40, Page A, Button #1)**.
2. Enter a 0 or 1 that corresponds with the following entries:

   [0] = Dial Pulse

   [1] = DTMF

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Each individual outside line can be programmed to be DTMF (tone) or dial pulse. By default, all lines are set for DTMF.

CO / PBX Programming

Programming Steps

1. Press the CO/PBX flexible button **(FLASH 40, Page A, Button #2)**.
2. Enter a 0 or 1 which corresponds with the following entries:

   [0] = PBX

   [1] = CO

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Each individual outside line connected to the system may be programmed as a CO or PBX line. Use the PBX mark when identifying Centrex lines. By default, all lines are assigned as CO lines.

Universal Night Answer (UNA)

Programming Steps

1. Press the UNA flexible button **(FLASH 40, Page A, Button #3)**.
2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

If a line is marked UNA, this activates night service answering of incoming calls on this line by stations not normally assigned access to the line(s). This station must have a direct CO appearance or an available loop key assigned to do this. Lines marked as UNA also activate Night Ringing over External Page when in the night mode if External Night Ringing is set to Yes. By default, UNA is enabled.

DISA CO-to-CO

Programming Steps

1. Press the DISA CO-TO-CO flexible button **(FLASH 40, Page A, Button #4)**.
2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

DISA CO-TO-CO ENABLED	0-1

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The DISA CO-to-CO (or Conference) mark on the CO line governs a DISA caller's ability to access other outside lines. CO lines must have DISA CO-to-CO enabled to allow a DISA caller to establish an outgoing CO-to-CO connection. This allows for specific CO line access restriction on DISA calls. A station with Conference enabled can initiate a conference on CO lines regardless of the CO line conference marking. By default, DISA CO-to-CO is enabled for all CO lines.

The CO line conference flag affects a DISA caller's ability to access outgoing CO lines as shown in the following table:

Table 3-1: CO Line Conference Flag

Incoming DISA CO	DISA Caller Attempts to Access	
	CO-to-CO Enabled	CO-to-CO Disabled
CO-to-CO Enabled	Call Allowed	Call Denied
CO-to-CO Disabled	Call Denied	Call Denied

Privacy

Programming Steps

1. Press the PRIVACY flexible button **(FLASH 40, Page A, Button #5)**.
2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled

PRIVACY ENABLED	0-1

3. Press HOLD to save the entry. A confirmation tone sounds.

Disabling the privacy feature may be limited by federal, state or local law, so check the relevant laws in your area before disabling privacy.

Disabling Privacy Function

The system can be programmed to eliminate CO Line Privacy, which allows another station to join existing outside line conversations as follows:

- Stations must have a direct CO line appearance to join CO line conversations in progress.
- A station must also have Privacy disabled before the system allows that station to enter an existing conversation.
- A programmed warning tone is presented to both parties prior to actual cut-through (Flash 06, Button 1).
- Up to seven other stations may join an existing conversation.
- The station joining the call receives a solid red LED indication.

By default, Privacy is enabled for all CO Lines.

Table 3-2: CO Line Privacy Flag

Station Attempting to Access CO Line	CO Line in Use by Another Station	
	Privacy Enabled	Privacy Disabled
Privacy Enabled	Private (no cut-through)	Private (no cut-through)
Privacy Disabled	Private (no cut-through)	Privacy Release (cut-through allowed)

Loop Supervision Programming

Programming Steps

1. Press the LOOP SUPV flexible button **(FLASH 40, Page A, Button #6)**.
2. Enter a valid number (1-9) on the dial pad which corresponds to 100-900 ms. (0 = disabled).

```
LOOP SUPERVISION          0-9
4
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Loop Supervision is used primarily with DISA, Voice Mail/Auto Attendant and with unsupervised conference applications. It lets the system detect when loop current is broken and an outside line is no longer being used. To determine timer value for loop supervision, consult your local central office for type and duration of loop supervision signal. By default, Loop Supervision is set for 400 ms for all CO Lines.

DISA Programming

Programming Steps

1. Press the DISA flexible button **(FLASH 40, Page A, Button #7)**.
2. Enter a valid number (0-5) on the dial pad to indicate type of DISA desired.
   [0] = No DISA
   [1] = 24-Hour DISA
   [2] = Night DISA
   [3] = 24-Hour DISA with forwarding
   [4] = Night DISA with forwarding
   [5] = Telecenter 24-Hour DISA with forwarding

```
DISA TYPE                 0-5
NONE
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Each CO can be assigned as a DISA line using 1 of the 5 DISA types available.

- DISA can be programmed using Range programming.
- DISA callers are subject to the Class of Service placed on the line accessed for out dialing.
- The system admin can control the call duration after establishing a Trunk-to-Trunk call.
- After expiration of the Conference Timer, a tone is presented to both DISA parties, then one minute later the system automatically releases both trunks.
- The Conference Timer does not affect or control a DISA-to-Station call. By default, there are no outside lines assigned as DISA lines.

CO Line Group Programming

Programming Steps

1. Press the CO LINE GROUP flexible button **(FLASH 40, Page A, Button #8)**.
2. Enter a valid number on the dial pad (0-23) which corresponds to Groups 0-23.

```
LINE GROUP                    0-23
1
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Twenty four line groups are available for CO line assignment. Groups should be assigned according to type (local, FX, WATS, etc.). All unassigned CO lines should be programmed into a different group so they are not accessed by Line Queuing, Pooled Group access (Pool Buttons), Speed Dial, or LCR features.

Line Group 0 is for programming a line(s) as private. CO Lines assigned to Line Group 0 can only be accessed by stations with a direct CO appearance (button) on their phone. All unused COs should be placed in Line Group 0. By default, all lines are placed in Line Group 1.

When tying multiple systems together, use the Networking Table (FLASH 16).

Class of Service (COS)

Programming Steps

1. Press the LINE COS flexible button **(FLASH 40, Page A, Button #9)**.
2. Enter a valid number on the dial pad (1-5) which corresponds to five possible class-of-service to which a line may be assigned:

   COS1 = No restrictions

   COS2 = Table A governs, Station COS 2 and 4 are monitored

   COS3 = Table B governs, Station COS 3 and 4 are monitored

   COS4 = Restricts [0], [1], [*], [#] dialed as first-digit and places a 7-digit dialing limitation. Allowed are: 1-800, 1-888, 1-866, 1-877, 1-911, and 1-611. Denied are: 411, 976, and 555.

   COS5 = Overrides Station COS 2, 3, 4, 5 and allows unrestricted dialing.

   ```
   CLASS OF SERVICE              1-5
   1
   ```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Through assignments of a CO Class of Service, the assigned CO line interacts with a station Class of Service, provides a canned restriction, or provides unrestricted dialing capabilities. (When a CO line is marked PBX, COS restrictions apply to the station only if one of five PBX codes are dialed first.)

Table 3-3: Class of Service (COS)

STATION COS	CO LINE CLASS OF SERVICE				
	1	2	3	4	5
1	Unrestricted	Unrestricted	Unrestricted	Canned Restricted*	Unrestricted
2	Table A	Table A	Unrestricted	Canned Restricted*	Unrestricted
3	Table B	Unrestricted	Table B	Canned Restricted*	Unrestricted
4	Table A and B	Table A	Table B	Canned Restricted*	Unrestricted
5	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted
6	Intercom Only	Intercom Only	Intercom Only	Intercom Only	Intercom Only

** Canned Restriction: No [0], [1], [#], [*] as first dialed digit, and 7-digit dialing limitation; plus 1-800, 1-888, 1-866, 1-877, 1-911, 1-611 are allowed, and 411, 976, and 555 numbers are denied.*

CO Line Ringing Assignments

Programming Steps

1. Press the RING ASSIGNMENT flexible button **(FLASH 40, Page A, Button #10)**. The display shows the following information:

```
RING ASSIGNMENTS
ENTER DDDR
```

2. Enter a valid Destination (DDD) or (DDDD) and Ring type (R) followed by the HOLD button. A confirmation tone sounds and the display updates.

Table 3-4: CO Line Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a destination
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]

** Internal flexible numbers range = 100-8999*

*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*

[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

To add multiple stations:

Enter: DDDDR HOLD DDDDR HOLD DDDDR HOLD...etc.

(Example: 10073 HOLD, 10083 HOLD, 10093 HOLD)

To delete a single station:

Enter: DDDD0 HOLD

(Example: 10080 HOLD)

To delete multiple stations:

Enter: DDDD0 HOLD DDDD0 HOLD...etc.

(Example: 10080 HOLD, 10090 HOLD)

Description

Each CO Line may be assigned to ring any station in the system; UCD, Voice Mail or Hunt Group, or Off-Net (via speed dial). CO Line ringing is programmed on a per CO Line destination basis. Each destination may be designated to ring during the day, during the night, or receive both Day and Night ringing. Stations that are assigned for initial ring-in **must have** a LOOP button(s) to answer calls if a direct CO appearance is unavailable.

An incoming CO line may be programmed to any number of stations but it cannot be programmed to ring a mixture of stations and groups in the same time period. Incoming calls directed Off-Net are connected to an outgoing system speed bin. CO lines assigned to ring multiple stations do not follow any station's forwarding. By default, all CO lines ring at the Attendant, Station 100 during Day and Night Modes.

CO Line Identification Display

Programming Steps

Each CO line in the system can be programmed to have a name associated to it in database programming.

1. Press the CO LINE IDENTIFICATION flexible button **(FLASH 40, Page A, Button #11)**. The following message displays:

```
LINE ID
LINE 001
```

2. Enter the name by using keys on the dial pad as follows. Valid alphanumeric characters are: [A-Z], [0-9], [✳], [#], [-] [spaces] and other ASCII characters as listed in *Table 3-5*.

   The name may be entered in any combination up to 12 characters (this represents 24 digits entered).

Table 3-5: Dial Pad Keys

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Co Line Identification Display feature allows the entry of a name for each line (trunk) connected to the system. Once entered into the database, LCD phones, including the Attendant stations, receive the programmed line name in place of the default LINE XXX message. This applies to all line call processing conditions where the current LINE XXX message displays. SMDR continues to print out the line number in place of the programmed name. If the line name was not programmed, the current LINE XXX display is the default. A programmable data field is available for each line in the system. Line names may be assigned using the range programming.

A message similar to the following display is used for all CO Line displays when a name is programmed for a CO Line.

```
LINE  RINGING
nnnnnnnnnnn              HH:MM am
```

Entries can be made using a keyboard by following the same outlined procedures using Figure 1-1 .

CO Direction

Programming Steps

1. Press the CO DIRECTION flexible button. **(FLASH 40, Page A, Button #12)**. The following message displays:

```
CO  DIRECTION                    0-3
INCOMING - OUTGOING
```

2. Enter a valid number (0-3) on the dial pad which corresponds to the desired CO type:
   [0] = Out-of-Service (OOS)
   [1] = Incoming Only
   [2] = Outgoing Only
   [3] = Both Incoming and Outgoing
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

CO Lines can be programmed on a per CO Line basis for the type of CO Line desired: Incoming, Outgoing, or Incoming and Outgoing.

Incoming

- Incoming restricts the CO Line for incoming calls only.
- Users can place call on hold, park the call, and other stations can pick up the call.

Outgoing

- Outgoing restricts the CO Line to outgoing calls only.
- Users can place call on hold, park the call, and other stations can pick up the call.

Incoming and Outgoing

- Incoming and outgoing type allow calls to be received or dialed out.
- By default, all CO Lines default to both incoming and outgoing type.

Display Ring Assignments

Programming Steps

1. Press **FLASH 40, Page A, Button #13** to display ring assignments. Assignments are displayed in sets of six, up to the number programmed. The following format displays the assignments.

```
XDDDDRR XDDDDRR XDDDDRR
XDDDDRR XDDDDRR XDDDDRR
```

XDDDD = Destination type ID letter fllowed by number to be dialed:
[F]] plus Fixed Number, e.g., F102
[H] plus Hunt Group Number, e.g., H6700
[M] plus Modem Extension Number, e.g., M6099 (default = M499N)
[R] plus Recorded Announcement Extension Number, e.g., R6020
[S] plus Station Number, e.g., S6002
[U] plus UCD/ACD Group/Agent Number, e.g., U6034
[V] plus Voice Mail Group Number, e.g., V6899
[B] plus Speed Bin Number, e.g., B9990
RR:
[0] = No Ring
[D] = Day Ring
[N] = Night Ring
[DN] = Day/Night Ring
[S] = Special Only
[DS] = Day/Special
[NS] = Night/Special
[A] = All Modes (Day/Night/Special)

2. Press **FLASH 40, Page A, Button #13** additional times to cycle to the next group of six ring assignments. Ring assignments are displayed in numerical order, from the lowest to the highest number.

DID/TIE Signaling

Programming Steps

1. Press **FLASH 40, Page A, Button #14**. The following message displays:

```
DID/TIE SIGNALING          0-2
WINK
```

2. Dial a valid number (0-2) on the dial pad.
   [0] = Immediate Start
   [1] = Wink Start
   [2] = Delay Start
3. Press HOLD to save the entry.

Description

The DID/TIE Signaling feature can be programmed for one-way direct access inward dialing access to specific stations on specific DID lines without going through an Attendant answering position.

911 Trunk

Programming Steps

1. Press **FLASH 40, Page A, Button #15** to designate the line for 911 use. The following message displays:

```
911 TRUNK                  0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

When the 911 system feature is enabled (FLASH 06), this identifies which CO lines are to be used for placing 911 calls. The Attendant is alerted via the display and flexible button as to the time, date, and station number(s) that placed the 911 call.

Lines must be programmed for 911 to enable the 911 feature.
Failure to enable lines for 911 disables 911 calls.

Electronic Key Telephone Service

Programming Steps

1. Press **FLASH 40, Page A, Button #16** to enable or disable extended key telephone service. The following message displays:

EKTS 0-1 DISABLED

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
4. Reset the KSU

   -or-

   Reset only the card using "config" without resetting the whole telephone switch. To do this, type *config* at the *Enter Password* prompt. Then type *r<space>k* (*k* = slot number). For example, *r<space>2* indicates that the BRI card is in slot 2.

Shared numbers are routed using the standard DID tables (Flash 43 and 44).

Numbers that are not shared will only ring on the designated channel. If the designated channel is busy, the caller will receive a busy signal.

Description

Extended key telephone service (EKTS) is used with the ISDN BRI to simulate DID calling.

Conditions

- To support EKTS, telephone switch software must be 3.0G or higher and BRIB firmware must be 0.1G or higher.
- When ordering EKTS, request basic EKTS, not cache EKTS.
- Order only one SPID and one primary directory number per channel.
- Secondary directory numbers (e.g., DID numbers) are shared across each channel to a maximum of 32 channels.
- Sharing can only be done between circuits on one card.

Page B Introduction

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode. If Page B CO Line features must be changed:

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines (001-144) are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible Button #19 (Page A) is lit.
4. Press the PAGE B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

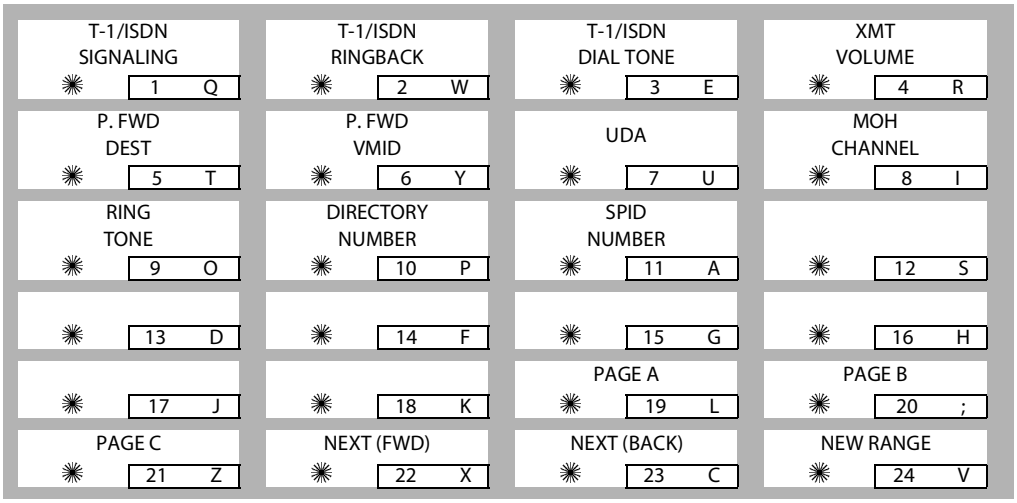
XXX-XXX = CO Line Range
001-048 = DVX^{Plus} II/III
001-144 = DVX^{Plus} IV

Description

This section describes the procedures and steps necessary to program CO Line attributes. When entering the CO Line attributes portion of the database, the programmer may decide to enter information for a range of CO lines or one specific CO Line.

Range programming lets the programmer change a specific parameter or a few parameters for an entire range of CO Lines leaving intact the remaining data fields that do not require change. Those data fields continue to operate with the previously programmed data.

When programming the Page B features, the flexible buttons are mapped as follows:



T-1 Signaling Type

Programming Steps

1. Press the T-1 SIGNALING flexible button **(FLASH 40, Page B, Button #1)**. The following message displays:

```
T-1 SIGNAL TYPE              0-7
LOOP START
```

2. Enter a valid number (0-7) on the dial pad that corresponds to one of the following types:

Table 3-6: T-1 Signaling Options

Signaling Option	Description
[0] = None	None is used for fractional T-1 spans. All unused channels in a fractional T-1 span should be marked as None.
[1] = Data (future)	
[2] = Loop Start	Disconnect supervision is not supported for Loop Start emulation of T-1 circuits.
[3] = Ground Start	Software supports disconnect supervision for ground start emulation of T-1 circuits.
[4] = DID	The DID signaling (wink, delay) is controlled in Flash 45. DNIS digits from the carrier are routed via the DID table programming in Flash 44. This simulates incoming DID service only.
[5] = TIE	
[6] = TIE/DNIS	
[7] = TIE/ANI	The ANI number is treated and routed as an ICLID number. It follows the Flash 43 programming for routing information.

3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

The T-1 trunk card provides the *DVX*^{Plus} Digital Systems with the ability to connect to digital T-1 trunk circuits. The T-1 trunk card supports either the standard D4 framing format with Alternate Mark Inversion (AMI) or Extended Superframe (ESF-B8ZS) format coding. The system can support TIE, loop start, ground start, and DID signaling per channel. The T-1 trunk card fits into one card slot, however, it takes up two card slots worth of time slots.

The T-1 signaling protocols provided are: Loop Start, Ground Start, TIE. The *DVX*^{Plus} Digital Systems use the TIE signaling simulation from the Central Office to add the additional protocol of Direct Inward Dial (DID).

T-1 trunking provides services called Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS). The T-1 feature supports both of these services. The *DVX*^{Plus} Digital Systems support ANI, DNIS, or an ANI and DNIS combination on a per channel (line) basis. By default, the T-1 Signal Type Option is Loop Start.

T-1 Ringback Option

Programming Steps

1. Press the RINGBACK OPTION flexible button **(FLASH 40, Page B, Button #2)**. The following message displays:

```
T-1 RINGBACK                    0-1
ENABLE
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

The T-1 Ringback option supports T-1 channels which require ringback tone to be transmitted to the caller while a call is ringing. Some carriers require the system to generate the ringback tone, this feature allows the system to provide this option. Ringback tone is not used with the DISA, TIE Line, or DID signal options. By default, the T-1 Ringback Option is enabled.

T-1 Dial Tone Option

Programming Steps

1. Press the DIAL TONE OPTION flexible button **(FLASH 40, Page B, Button #3)**. The following message displays:

```
T-1 DIAL TONE                    0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Description

An option has been added to support T-1 channels which do not supply dial tone. Some carriers require the system to generate dial tone to its users, while other carriers do not. (By default, the Dial Tone option is disabled.)

Transmit Volume

Programming Steps

1. Press the TRANSMIT VOLUME flexible button **(FLASH 40, Page B, Button #4)**. The following message displays:

```
TRANSMIT VOLUME                  0-9
0 DB
```

2. Enter a valid number (0-9) for the desired volume level.

[0]	-15 dB	[5]	0 dB
[1]	-12 dB	[6]	+3 dB
[2]	-9 dB	[7]	+6 dB
[3]	-6 dB	[8]	+7.5 dB
[4]	-3 dB	[9]	+9.0 dB

3. When the desired level is selected, press HOLD to complete the entry. A confirmation tone sounds and the display updates.

Description

Up to ten volume levels are available for each CO Line in the system. By default, all CO lines are programmed for level 5 (0 dB).

Do NOT adjust this option without consulting Technical Support first. The default settings were set to apply to most applications. Have the dB readings on all CO lines available when calling Technical Support.

Preset Call Forward Destination

Programming Steps

1. Press the PRESET FWD DESTINATION flexible button **(FLASH 40, Page B, Button #5)**. The following message displays:

```
PRESET FORWARD DEST
####
```

2. Enter a valid forward destination on the dial pad.

   [9020-9999] = System Speed Bins

   [100-171] = *DVX^{Plus}II/III* Station Extensions

   [100-351] = *DVX^{Plus}IV* Station Extensions

   [440-447] = Voice Mail Groups 1-8

   [450-457] = Hunt Groups 1-8

   [499] = System Modem

   [550-557] = UCD Groups 1-8

   [550-565] = ACD Groups 1-16

3. A confirmation tone sounds and the LCD display updates.

Description

The Preset Call Forward Destination feature enables a CO line to initially ring at multiple stations and forward to a pre-determined destination. The destination can be a station (EKT-SLT) or Hunt group. Each CO line has a Preset Forward Timer. Each CO line also has a VMID field to allow sending of specific VM digits when a CO line forwards to a VM group. Calls ringing into ACD/UCD Groups or Voice Mail Groups continue to ring the group. The CO line does not forward when ringing one of these types of groups. By default, no destinations are assigned.

Preset Forward Voice Mail ID

Programming Steps

1. Press the PRESET FWD VMID flexible button **(FLASH 40, Page B, Button #6)**. The following message displays:

```
PRESET FORWARD VMID   0000-9999
####
```

2. Enter a valid number that corresponds to 0000-9999 for Voice Mail ID digits.
3. Press HOLD to complete the entry. A confirmation tone sounds and the display updates.

Deleting Numbers Currently Entered

1. Press [#] button four times.
2. Press the HOLD button to update. (All information is erased.)

Description

The Preset Forward Voice Mail ID feature allows a programmer to assign which digits are sent to voice mail when a CO line is programmed to Preset Forward. By default, no digits are sent.

Universal Day Answer (UDA)

Programming Steps

1. Press the UNIV. DAY ANSWER flexible button **(FLASH 40, Page B, Button #7)**. The following message displays:

```
UNIVERSAL DAY ANSWER          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

UDA-assigned CO lines can signal over external page port(s). External Day ringing is programmed on a system-wide basis in administrative programming. Stations that do not have access to a line during the day can answer that line while the System is in the day mode by dialing a UDA code [#5]. To use this feature, a LOOP button or an appearance of the trunk must be present on the station. By default, the Universal Day Answer feature is disabled.

Music-On-Hold (per CO Line)

Programming Steps

1. Press the MUSIC-ON-HOLD flexible button **(FLASH 40, Page B, Button #8)**. The following message displays:

```
MOH CHANNEL                   0-8
1
```

2. Enter a valid number on the dial pad to change this feature.

   [0] = No Music-On-Hold

   [1] = Channel 1

   : : : : :

   [8] = Channel 8

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Table 3-7: MOH Programming Codes

Program Code	Flex Button	Feature	Default (after initialization)
FLASH 09	1	Music Channel #3*	##
	2	Music Channel #4*	##
	3	Music Channel #5*	##
	4	Music Channel #6*	##
	5	Music Channel #7*	##
	6	Music Channel #8*	##
** Music Channels 3-8 can only be used for Music-On-Hold functions*			

Description

The Music-On-HOLD feature allows a user to select the Music-On-Hold channel for each CO line. This feature lets the system assign CO line circuits as additional music inputs. This increases the capacity of music channels beyond the two available on the MISU to be used for MOH sources. A total of eight channels are available for use on the system. The CO line can be assigned to NOT PLAY music for callers on hold. By default, Channel 1 is used for Music-On-Hold.

Ring Tone (per CO Line)

Programming Steps

1. Press the RING TONE flexible button **(FLASH 40, Page B, Button #9)**. The following message displays:

```
RING TONE                    00-36
00
```

2. Enter a valid number on the dial pad to change this feature.

Table 3-8: Ringing Tones

Tone#	Freq	Tone#	Freq	Tone#	Freq	Tone #	Freq
00	697/770	10	770/1209	20	852/0	30	1336/1477
01	697/852	11	770/1336	21	941/1209	31	1336/1633
02	697/941	12	770/1477	22	941/1336	32	1336/0
03	697/1209	13	770/1633	23	941/1477	33	1477/1633
04	697/1336	14	770/0	24	941/1633	34	1477/0
05	697/1477	15	852/941	25	941/0	35	1633/0
06	697/1633	16	852/1209	26	1209/1336	36	No Ring
07	697/0	17	852/1336	27	1209/1477		
08	770/852	18	852/1477	28	1209/1633		
09	770/941	19	852/1633	29	1209/0		

Tone Duration = 50 ms/50 ms

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The ring tone signal used to notify stations of an incoming call can be changed in administrative programming to provide distinctive ringing on a per CO line basis. A distinctive ring tone can be programmed for each CO line that rings each station. The system provides 36 different ring patterns that can be selected for each CO line in the system.

By default, Ring Tone is set for 00 (697/770).

Distinctive CO Ring Tone overrides station distinctive ringing.

Directory Number

Programming Steps

1. Press the DIRECTORY NUMBER flexible button **(FLASH 40, Page B, Button #10)**. The following message displays:

DIRECTORY NUMBER 0-9,*,# XX

2. Enter the directory number (Up to 24 digits (0-9, *, #)

The Directory number is provided by the Central Office. The number must be entered on the correct line for proper operation.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

SPID

Programming Steps

1. Press the SPID flexible button **(FLASH 40, Page B, Button #11)**. The following message displays:

SPID 0-9

2. Enter the SPID number (Up to 24 digits (0-9, *, #)

The SPID number is provided by the Central Office. The number must be entered on the correct line for proper operation.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Page C Introduction

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode first.

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines (001-144) are selected.

3. Press Button #21 to select Page C. The display updates. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE C
ENTER BUTTON NUMBER
```

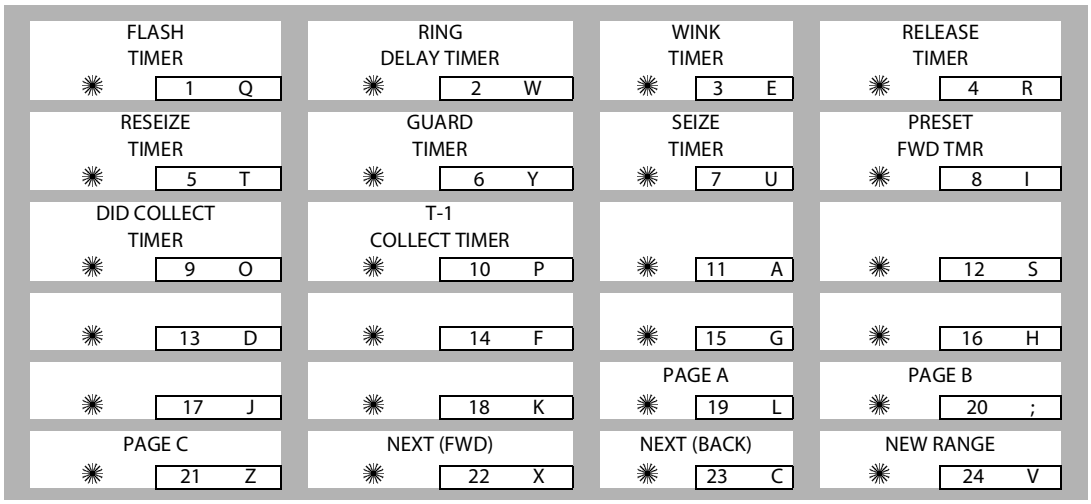
XXX-XXX = CO Line Range
001-048 DVX^{Plus} II/III
001-144 DVX^{Plus} IV

Description

When entering the CO Line attributes portion of the database, the programmer may decide to enter information for a range of CO lines or one specific CO Line.

Range programming lets the programmer change a specific parameter or a few parameters for an entire range of CO lines, leaving intact the remaining data fields that do not require change. Those data fields continue to operate with the previously programmed data. (By default, Page A is shown.)

When programming the Page C features, the flexible buttons are mapped as follows:



Flash Timer

Programming Steps

1. Press the FLASH TIMER flexible button (**FLASH 40, Page C, Button #1)**.
2. Enter a valid number on the dial pad (01–20) which corresponds to 100 ms to 2 seconds.

```
FLASH TIMER                    01-20
10
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Flash is a programmable opening on a line for signaling. When using an outside line, flash lets a user obtain a new dial tone without losing the line. This is particularly useful behind a PBX or Centrex. Each CO line can be programmed for a flash time. By default, the Flash Timer is set for 10 (1.0 seconds) and is variable from 01-20 (100 ms to 2 seconds).

Ring Delay Timer

Programming Steps

1. Press the RING DELAY TIMER flexible button **(FLASH 40, Page C, Button #2)**. The following message displays:

```
RING DELAY TIMER               00-20
00
```

2. Enter a valid number on the dial pad (00–20) which corresponds to 00-20 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Ring Delay timer was added to the *DVX^{Plus}II/III/IV* to accommodate ICLID interface requirements. The Ring Delay timer is started whenever a CO Line detects incoming ringing. When the timer expires, CO line ringing is detected by digital telephones and SLTs.

The purpose of this timer is to wait until after the first ring cycle to be detected by the digital system so the ICLID information is passed down the CO line prior to being answered. In some cases, it may be necessary to set the Ring Delay Timer to four seconds so all the ICLID information is received from the Central Office. By default, the Ring Delay Timer is set at 00 (disabled) and is variable from 00-20 seconds.

Wink Timer

Programming Steps

1. Press the WINK TIMER Button **(FLASH 40, Page C, Button #3)** in the flexible button field. The following message displays:

```
WINK TIMER                100-290
140
```

2. Enter a valid number which corresponds to 100-290 ms.
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.

Description

When Wink signaling is programmed, this timer determines how long the *DVX^{Plus}II/III/IV* System keeps the T-1 TIE Line circuit reversed before any DTMF digits are sent from the Central Office. This option allows the installer a method to adjust the Wink Signal on a per CO Line basis. The Wink Signal can be used on DID and T-1 E & M type trunks. By default, the Wink Timer is set for 140 ms.

Release Timer

Programming Steps

1. Press the RELEASE TIMER Button **(FLASH 40, Page C, Button #4)** in the flexible button field. The following message displays:

```
RELEASE TIMER             000-255
020
```

2. Enter a valid number on the dial pad which corresponds to 000-255 ms.
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.

Description

The Release Timer option allows the user to adjust the release timer on a per CO Line basis. The release timer is used on ground start type trunks. This timer is a lead filter timer. The CO must remove ground from the tip lead for longer than this timer in order for the system to recognize it. By default, the Release Timer is set for 200 ms.

Reseize Timer

Programming Steps

1. Press the RESEIZE TIMER Button **(FLASH 40, Page C, Button #5)** in the flexible button field. The following message displays:

```
RESEIZE TIMER              000-255
200
```

2. Enter a valid number on the dial pad that corresponds to 000–255 (0 ms to 2.55 seconds).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Reseize Timer option lets the user adjust the Reseize Timer on a per CO Line basis. The Reseize Timer can be used on any trunk type. This timer sets the time period that a trunk is held disconnected after receiving a disconnect before being reseized when a device is queued for a member of the trunk group. By default, the Reseize Timer is set for two seconds.

Guard Timer

Programming Steps

1. Press the GUARD TIMER button **(FLASH 40, Page C, Button #6)** in the flexible button field. The following message displays:

```
GUARD TIMER                1-60
05
```

2. Enter a valid number on the dial pad which corresponds to 1–60 (100 ms to 6 seconds).
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The outgoing Guard Timer is used to set the length of time a CO is held busy to outgoing seizure after a valid release is detected. If a user attempts to access a CO line before the Guard Timer expires, their LED illuminates to indicate that the line is seized, however the CO line is not actually seized until the timer expires. The user gets a busy tone, and may receive a delayed CO dial tone if the timer is set to a large value. By default, the Guard Timer is set for .5 seconds.

Seize Timer

Programming Steps

1. Press the SEIZE TIMER Button **(FLASH 40, Page C, Button #7)** in the flexible button field. The following message displays:

```
SEIZE TIMER                 000-255
010
```

2. Enter a valid number on the dial pad which corresponds to 000–255 (100 ms to 2.55 seconds).
3. Press the HOLD button to save the entry. A confirmation tone heard and the display updates.

Description

The Seize Timer option allows the user to adjust the Seize Timer on a per CO Line basis. The Seize Timer is used on ground start type trunks. This Seize Timer is a lead filter timer. The CO must provide ground at the tip lead for longer than this timer in order for the system to recognize it. By default, the Seize Timer is set for 0.1 seconds.

Preset Forward Timer

Programming Steps

1. Press the PRESET FWD TIMER flexible button **(FLASH 40, Page C, Button #8)**. The following message displays:

```
PRESET FWD TIMER            00-99
10
```

2. Enter valid number on dial pad which corresponds to 00–99 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Preset Forward Timer determines the time an outside line rings before being forwarded to a predetermined destination. If a forward destination is programmed in the CO line field, the CO calls forward to that destination after the CO preset forward timer expires. This forward occurs regardless of how many stations the line is ringing.

The digits entered for the CO line are sent in the station field.This feature applies to initial CO ringing lines only and works with Preset Forward CO Line assignments. By default, the CO Line Preset Forward Timer is set at 10 seconds and is variable from 00-99 seconds. A [00] entry disables the timer and the feature is disabled.

DID Collect Timer

Programming Steps

1. Press the DID COLLECT TIMER Button **(FLASH 40, Page C, Button #9)** in the flexible button field. The following message displays:

```
DID COLLECT TIMER          010-200
015
```

2. Enter a valid number on the dial pad that corresponds to 010–200 (100 ms to 2.0 seconds).
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.

Description

The DID Collect Timer is only used when the DID Incoming Signaling is set for dial pulse. This is a time-out timer that looks at the incoming digits one digit at a time. If a second digit isn't detected within the 150ms, the telephone system attempts to process that digit. If a second digit is detected, the system waits 150ms to see if a third digit is received. Otherwise, the telephone system attempts to process the two digits already received. This process continues until no additional digits are received and the time-out timer expires. By default, the DID Collect Timer is set for 150 milli-seconds and is variable from 100ms to 2.0 seconds.

T-1 Collect Timer

1. Press the T-1 COLLECT TIMER flexible button **(FLASH 40, Page C, Button #10)**. The following message is shown on the display phone:

```
T1 COLLECT TIMER           010-200
015
```

2. Enter a valid number on the dial pad which corresponds to 010–200 (100 ms to 2.0 seconds).
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Description

The T-1 Collect Timer is only used when the T-1 Incoming Signaling is set for dial pulse. This is a time-out timer that looks at the incoming digits one digit at a time.

If a second digit isn't detected within the 150ms, the telephone system attempts to process that digit. If a second digit is detected, the system waits 150ms to see if a third digit is received. Otherwise, the telephone system attempts to process the two digits already received. This process continues until no additional digits are received and the time-out timer expires.

By default, the T-1 Collect Timer is set for 150 milli-seconds and is variable from 100ms to 2.0 seconds.

Miscellaneous CO Parameters

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode first.

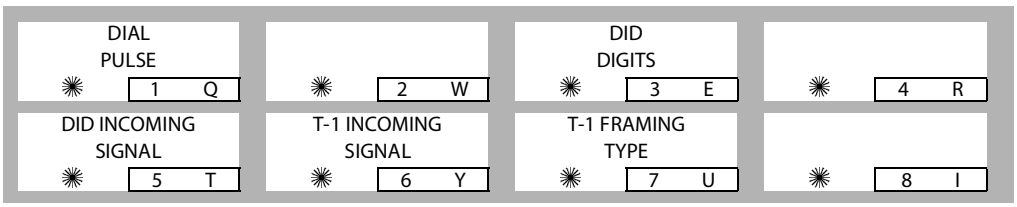
1. Press **FLASH** and dial **[41]**. The following message displays:

```
CO FEATURES
ENTER BUTTON NUMBER
```

2. Select any feature by pressing the appropriate flexible button(s) in the flexible field.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

When entering the Miscellaneous CO Parameters programming area the buttons on the digital telephone are defined as shown below:



Dial Pulse Parameters

Programming Steps

1. Press the DIAL PULSE flexible button **(FLASH 41, Button #1)**. The following message displays:

```
DIAL PULSE
60 / 40  10 PPS
```

2. Enter a valid number (0–3) which corresponds with the following entries:

   [0] = 60/40 (RATIO), 10 pps (SPEED)

   [1] = 66/33 (RATIO), 10 pps (SPEED)

   [2] = 60/40 (RATIO), 20 pps (SPEED)

   [3] = 66/33 (RATIO), 20 pps (SPEED)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Dial Pulse option lets the installer adjust the dial pulse ratio and speed when using dial pulse (rotary) type signaling. By default, all lines are DTMF (tone) signaling. If pulse dialing is required, the individual outside line must be programmed for Dial Pulse (DP). When Dial Pulse is selected, this system-wide parameter must be set to determine the break/make ratio and the dial speed of the dial pulse signal.

This program code is only used when an outside (CO) line is programmed for Dial Pulse.

DID Digits

Programming Steps

To make a change to the number of DID Digits:

1. Press the DID DIGITS flexible button **(FLASH 41, Button #3)**. The following message is shown on the display phone:

```
DID  DIGITS                    3-7
3
```

2. Enter a valid number (3–7) on the dial pad which corresponds to the number of digits used for the routing of the DID Number.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Description

The DID Digits option allows the installer to adjust the amount of DID Digits received from the CO. This amount is used by all DID trunks in the system.

The DID Translation table can be programmed to determine the number of digits used for the routing of a DID call. By default, the number of DID digits is set to 3.

At least one DTMF receiver MUST be installed in the system

DID Incoming Signaling

Programming Steps

There are 2 types of DID Signaling available for DID Trunks. To change the type of signaling:

1. Press the DID INCOMING SIGNALING flexible button **(FLASH 41, Button #5)** for programming the type of DID signaling desired.

   The following message is shown on the display phone:

   ```
   DID INC SIGNALING          0-1
   DTMF
   ```

2. Enter a 0 or 1 on the dial pad.

   [0] = Dial Pulse

   [1] = DTMF

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Description

The DID Incoming Signal option allows the installer to determine the type of incoming signaling used by all T-1 trunks in the system. By default, the type of DID Incoming Signaling is set for DTMF.

T-1 Incoming Signaling

Programming Steps

There are two types of T-1 Signaling available for T-1 Trunks. To change the type of signaling:

1. Press the T1 INCOMING SIGNALING flexible button **(FLASH 41, Button #6)** for programming the type of T-1 signaling desired. The following message is shown on the display phone:

   ```
   T1 INC SIGNAL              0-1
   DTMF
   ```

2. Enter a 0 or 1 on the dial pad.

   [0] = Dial Pulse

   [1] = DTMF

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Description

The T-1 Incoming Signaling option allows the installer to determine the type of incoming signaling to be used by all T-1 trunks in the system. By default, the type of T-1 Signaling is set for DTMF.

T-1 Framing Type

There are two types of T-1 Framing Types available. To change the framing type:

1. Press the T1 FRAMING TYPE flexible button **(FLASH 41, Button #7)** for programming the type of T-1 framing desired. The following message is shown on the display phone:

```
T1 FRAMING TYPE                0-1
D4SF-AMI
```

2. Enter a 0 or 1 on the dial pad.

   [0] = D4SF-AMI

   [1] = ESF-B8ZS

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Description

T-1 boards 9031-31 and 8031-31 will work with D4SF-AMI or ESF-B8ZS framing. The T-1 service should be ordered from the serving company. By default, the type of T-1 Framing is set for D4SF-AMI.

Conditions

- The T-1 board must have firmware Version 1.0 or higher.

Flexible CO Port Assignment

Programming Steps

If the CO Line numbers need to be relocated to different ports, press **FLASH** and dial **[42]**. The following message displays:

```
CO 001  002  003  004  005
006  007 008
```

Buttons 1 through 18 indicate Ports 1 through 144. When the relocation program is initially entered, Button #1 is lit to indicate that the user is programming the CO Line numbers.

Changing the CO Line Number Assigned to any Port

1. Dial the position number on the display (01 through 08).
2. Then dial the CO Line number desired and press HOLD.

Example 1 -- If [01003] is dialed and the HOLD button is pressed, the CO line number of the first entry on the display changes to [003]. Since [003] was shown as the third entry on the display, that entry is blank (###).

```
CO 003  002  ###  004  005
006  007 008
```

Example 2 -- If Button #3 (CO Ports 17-24) is pressed, the following display appears:

```
CO 017  018  019  020  021
022  023 024
```

Example 3 -- If [03020] is dialed, the CO line number of the third entry on the display changes to [020]. Since [020] was shown as the fourth entry on the display, that entry is blank (###).

```
CO 017  018  020  ###  021
022  023 024
```

When all the CO Line numbers desired have been programmed, the system resets to update the data. This is done so that the programming of CO Lines can be done while the system is in use.

Description

The Flexible Port Assignment feature provides a means to assign CO line numbers to any CO line port in the system. This provides complete flexibility in determining CO line numbers within the system as long as they stay within the system numbering plan. A CO line can be assigned any number between [*001-048*] for *DVX*^{Plus}*II/III* or [*001-144*] for *DVX*^{Plus}*IV* on the *infinite* Digital Systems.

The buttons on the digital telephone are defined as shown when entering the Flexible Port Assignment Feature programming area:

PORTS 1-8 ✳ 1 Q	PORTS 9-16 ✳ 2 W	PORTS 17-24 ✳ 3 E	PORTS 25-32 ✳ 4 R
PORTS 33-40 ✳ 5 T	PORTS 41-48 ✳ 6 Y	PORTS 49-56 ✳ 7 U	PORTS 57-64 ✳ 8 I
PORTS 65-72 ✳ 9 O	PORTS 73-80 ✳ 10 P	PORTS 81-88 ✳ 11 A	PORTS 89-96 ✳ 12 S
PORTS 97-104 ✳ 13 D	PORTS 105-112 ✳ 14 F	PORTS 113-120 ✳ 15 G	PORTS 121-128 ✳ 16 H
PORTS 129-136 ✳ 17 J	PORTS 137-144 ✳ 18 K	✳ 19 L	✳ 20 ;

All CO line numbers entered are stored in a temporary database area which is uploaded to the main database when the system is reset.

Table 3-9: Flexible Port Assignments

Button #	CO Line #	Port #	Button #	CO Line #	Port #
1	001–008	1–8	10	073-080	73-80
2	009-016	9-16	11	081-088	81-88
3	017-024	17-24	12	089-096	89-96
4	025-032	25-32	13	097-104	097-104
5	033-040	33-40	14	105-112	105-112
6	041-048 *	41-48	15	113-120	113-120
7	049-056	49-56	16	121-128	121-128
8	057-064	57-64	17	129-136	129-136
9	065-072	65-72	18	137-144**	137-144

** CO Lines 001-048 available w/o MEMU installed (DVX^{Plus} II/III)*

*** CO Lines 001-144 available with MEMU installed (DVX^{Plus} IV)*

ICLID Programming

ICLID Ringing Assignments

Programming Steps

1. Press **FLASH** and dial **[43]**. The following message displays:

```
ROUTE 000  DDDDR
```

000 = Route Number (000–499)
DDDD = 3- or 4-Digit Ringing Destination Number
R = Ringing Type

2. Press the RING ASSIGNMENT flexible button **(FLASH 43, Button #1)**. LED #1 is lit indicating Route 000 is ready for programming.

3. Enter a valid Destination (DDD) or (DDDD) and Ring type (R) followed by HOLD. A confirmation tone sounds and the display updates.

Table 3-10: DID/ICLID Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a station
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]
Local Number/Name Translation Table Number [600-799]	

** Internal flexible numbers range = 100-8999*
*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*
[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

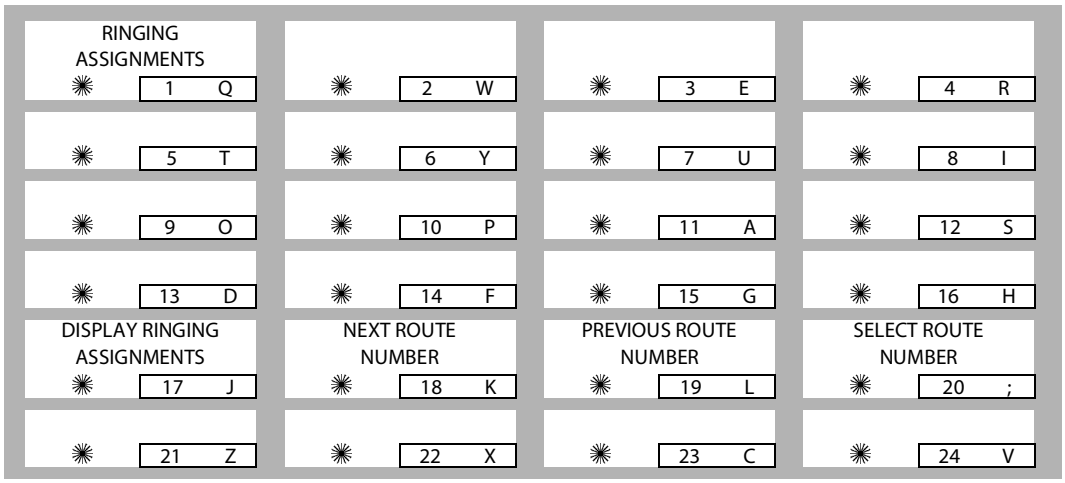
Description

ICLID Ringing Assignments let you change the ring assignment based on the incoming number received. This feature permits you to select from 500 ringing routes for each entry in the name to number translation table and DID table (Flash 55). For example, this feature could be used to re-route selected customers to a specific ACD or UCD group and bypass the general Attendant.

The Direct Inward Dialing (DID) feature permits one-way direct inward dialing access to stations on specific DID lines from the public telephone network, without going through an Attendant answering position. DID capabilities refer to incoming calls only.

The system accepts 3-7 digits from the Central Office. This lets the number and name field of the LCD display on a DID call be presented to the ICLID port. Calls are identified in the SMDR field as answered (I) or Unanswered (U) followed by the DID number. At least one DTMF receiver must be installed.

All previously programmed routes will be lost when upgrading from FP2 to FP3.



View ICLID Ringing Assignments

Programming Steps

1. Press FLASH 43, button #17 to display ring assignments. Assignments are displayed in sets of five, up to the number programmed. Press FLASH 43, button #17 additional times to cycle to the next group of five ring assignments.

```
ROUTE  000  XDDDDRR  XDDDDRR
XDDDDRR  XDDDDRR  XDDDDRR
```

XDDDD = Destination type ID letter fllowed by number to be dialed:
[F]] plus Fixed Number, e.g., F102
[H] plus Hunt Group Number, e.g., H6700
[M] plus Modem Extension Number, e.g., M6099 (default = M499N)
[R] plus Recorded Announcement Extension Number, e.g., R6020
[S] plus Station Number, e.g., S6002
[U] plus UCD/ACD Group/Agent Number, e.g., U6034
[V] plus Voice Mail Group Number, e.g., V6899
[B] plus Speed Bin Number, e.g., B9990
RR:
[0] = No Ring
[D] = Day Ring
[N] = Night Ring
[DN] = Day/Night Ring
[S] = Special Only
[DS] = Day/Special
[NS] = Night/Special
[A] = All Modes (Day/Night/Special)

Multiple station assignments are accomplished by assigning another destination with ring status, DDDDR, and pressing HOLD. This can be done for up to the maximum number of stations on the system.

Advancing to the Next Route

Press the NEXT flexible button **(FLASH 43, Button #18)** to advance to the next ICLID Route number.

Returning to a Previous Route

Press the PREVIOUS flexible button **(FLASH 43, Button #19)** to return to the previous ICLID Route number.

Selecting a Different Route

1. Press the SELECT ROUTE NUMBER flexible button **(FLASH 43, Button #20)** to select the desired route number.
2. Enter a valid ICLID route number ([000–499] for *DVX^{Plus}II/III/IV* Systems).
3. Press HOLD to change to the different route entered. A confirmation tone sounds.

Description

Keysets designated to ring on an incoming CO line but not designated to ring on the ICLID ring, may receive a ring cycle before the call is moved. The same ringing restrictions applied to CO line ringing are applied to ICLID ringing. By default, no destinations or ringing assignments exist.

Direct Inward Dialing (DID) Programming

Programming Steps

Press **FLASH** and dial **[44]**. The following message displays:

```
DID RRR XXXXXXX
n.....n
```

[RRR] = Route Number (000-499)
[###] = DID Number (Directory # from Central Office)
[n...n] = Name Assigned to DID Number

The top left button (ROUTE) in the flexible button field is lit for programming the Route number. The LEDs for the UP Button **(FLASH 44, Button #18)**, the DOWN Button **(FLASH 44, Button #19)** is also lit.

Changing to a Different DID Route Number

1. Press either the UP Button **(FLASH 44, Button #18)**,

   -or-

   Press the DOWN Button **(FLASH 44, Button #19)**.
2. Enter a valid Route Number (000-499) to be associated with the DID Number.

   This Route Number is the same Route Number in the ICLID Ringing Assignments Table **(FLASH 43)** and determines the destination of the DID number associated with this Route Number. The display shows the route number as it is entered.
3. Press the HOLD button to save the entry. A confirmation tone sounds.

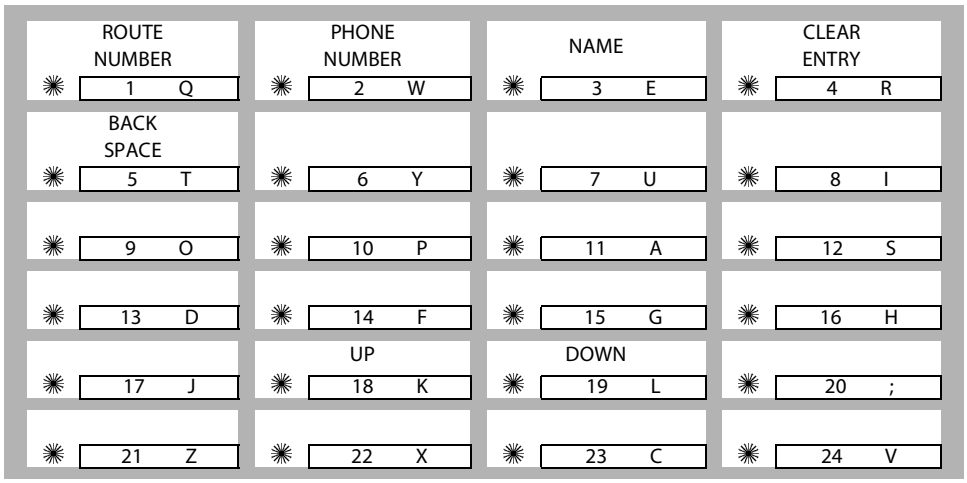
Description

DID calls are treated as an incoming call and follow the same rules established for CO lines. DID information transferred from the network is captured and translated to direct a specific DID number to a specific station, ACD or Hunt group of stations, or Voice Mail group. The DID call appears at the destination station under an assigned LOOP or CO button.

When receiving a DID call, the destination station hears the CO line ringing and the assigned CO or LOOP button flashes at the incoming CO line flash rate. The destination station then presses the flashing CO or LOOP button, is connected to the incoming DID call, and CO line ringing stops and the LED for the CO or LOOP button lights steady.

If the outside caller disconnects from a two-party conversation, the Central Office opens the loop and returns the line to idle state. The *DVX^{Plus}II/III/IV* Digital Systems detects the disconnect signal, release the line, and provides a busy tone to the keyset/SLT (unless the SLT is a VM port), and disconnects from the DID line. If the extension called hangs up the phone, the central office detects disconnects, and returns the line to the idle state.

The buttons on the digital telephone are defined as shown when entering the DID Table programming area:



By default, all entries in the DID Table (000-999) have phone numbers assigned. Refer to *Table 3-11: DID & ICLID Default Table Entries* for additional information.

DID Phone Number

Programming Steps

1. Press the PHONE NUMBER flexible button **(FLASH 44, Button #2)** to program the DID Number.
2. Enter the DID Number to be associated with a valid Route Number (000–499). Up to 7 digits can be entered.

   By default, only the last three digits are used for routing which is determined in Flash 45.
3. Use the BACK SPACE flexible button **(FLASH 44, Button #5)** to erase the current number or to correct for errors.

4. Press HOLD to save the entry. A confirmation tone sounds.

   If the DID number is already in the DID Translation Table, the Route Number associated with the DID number displays.

By default, the DID Table is filled with numbers. If error tone is received when the HOLD button is pressed, the DID Table is full and an entry needs to be deleted to make room for this new phone number.

Name Assigned to DID Number

Programming Steps

1. Press the NAME flexible button **(FLASH 44, Button #3)** to enter the desired name for the DID trunk. Maximum length is 8-characters.
2. Press the HOLD button to update the database. A confirmation tone sounds.
3. Use the BACK SPACE flexible button **(FLASH 44, Button #5)** to erase the current letter to correct for errors.

DID Name and Number Codes

The display shows the DID name or number as it is entered.

Other Codes

1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

Figure 3-1: DID Name/Number Codes

Erasing a DID Table Entry

Programming Steps

Clearing Entries from DID Table

1. Press the CLEAR ENTRY Button **(FLASH 44, Button #4)** to clear an entire Phone Number, Name and Route from the DID Table.
2. Press the HOLD button to save the entry. A confirmation tone sounds.

Changing to a Different DID Route

Press the UP button **(FLASH 44, Button #18)** to advance to the DID Route Number,

-or-

Press the DOWN button **(FLASH 44, Button #19)** to return to a previous DID Route Number.

Description

By default, all entries in the DID Table (000–999) have phone numbers assigned. The following table shows the default configuration for the DID Table entries and the ICLID Ringing assignments.

Table 3-11: DID & ICLID Default Table Entries

DID Translation Table		ICLID Translation Table	
DID Table Entry	Default Route(s)	ICLID Table Entry	Default Destination
000-098	100-198	100-198	100A-198A
099	199	199	499A
100-198	100-198	100-198	100A-198A
199	199	199	499A
200-298	100-198	100-198	100A-198A
299	199	199	499A
300-398	100-198	100-198	100A-198A
399	199	199	499A
400-498	100-198	100-198	100A-198A
499	199	199	499A
500-598	100-198	100-198	100A-198A
599	199	199	499A
600-698	100-198	100-198	100A-198A
699	199	199	499A
700-798	100-198	100-198	100A-198A
799	199	199	499A
800-898	100-198	100-198	100A-198A
899	199	199	499A
900-998	100-198	100-198	100A-198A
999	199	199	499A

Route 000 in the ICLID Ringing Assignment Table is used as the intercept route. Calls to numbers not contained in the DID table follow Route 000. If Route 000 is defaulted to None, the call follows Route 001.

Route 001 is used as the Busy DID Route. DO NOT program any entries in this Route if you intend to provide a busy tone to callers dialing a busy DID/DVIS number.

ISDN Programming - Page A

Programming Steps

1. Press **FLASH** and dial **[45]**. The following message displays:

```
ISDN ATTRIBUTES
SELECT A SLOT RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines (001-048 or 001-144) are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range
001-048= DVX^{Plus} II/III
001-144 = DVX^{Plus} iV

Description

This section describes the procedures and steps necessary to program CO Line attributes. When entering the CO Line attributes portion of the database, the programmer may decide to enter information for a range of CO lines or one specific CO Line. Range programming lets the programmer change a specific parameter or a few parameters for an entire range of CO Lines leaving intact the remaining data fields that do not require change. Those data fields continue to operate with the previously programmed data. By default, Page A is shown.

BRI CO TYPE ✺ 1 Q	PRI CO TYPE ✺ 2 W	FRAMING ✺ 3 E	NT / TE MODE ✺ 4 R
POWER ✺ 5 T	DIR NUMBER ✺ 6 Y	MAX OUT I - FRAMES ✺ 7 U	LEADING 1 ✺ 8 I
LEADING 011 ✺ 9 O	7/8 DIGIT NUMBER PLAN ✺ 10 P	CALLING NUMBER ✺ 11 A	LOOPBACK ✺ 12 S
10 DIGIT NUMBER PLAN ✺ 13 D	11 DIGIT NUMBER PLAN ✺ 14 F	✺ 15 G	✺ 16 H
✺ 17 J	✺ 18 K	PAGE A ✺ 19 L	PAGE B ✺ 20 ;
PAGE C ✺ 21 Z	PREVIOUS ✺ 22 X	NEXT ✺ 23 C	NEW RANGE ✺ 24 V

Basic Rate Interface (BRI) CO Type

Programming Steps

1. Press BRI CO TYPE flexible button **(FLASH 45, Page A, Button #1)**.
2. To view a CO type setting, enter a valid number (0-7).

```
BRI CO TYPE                    0-0
NI1
```

Description

Changes to BRI CO Type area are not possible at this time (setting = NI1).

Primary Rate Interface (PRI) CO Type

Programming Steps

1. Press PRI CO TYPE flexible button **(FLASH 45, Page A, Button #2)**.
2. To view a CO type setting, enter a valid number (1-1).

```
PRI CO TYPE                    1-1
NI2
```

Description

Changes to PRI CO Type area are not possible at this time (setting = NI2).

Framing

Programming Steps

1. Press the FRAMING flexible button **(FLASH 45, Page A, Button #3)**.
2. To view a Framing setting, enter a valid number (0-2).

```
FRAMING                        0-2
ESF
```

Description

Changes to the Framing area are not possible at this time (setting = ESF).

NT / TE Mode

Programming Steps

1. Press the NT/TE MODE flexible button **(FLASH 45, Page A, Button #4)**.
2. To view an NT/TE setting, enter a valid number (0-1).

```
NT / TE MODE                   0-1
TE
```

Description

The TE Mode setting cannot be changed.

Power

Programming Steps

1. Press the POWER flexible button **(FLASH 45, Page A, Button #5)**.

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

Default = Disabled

Directory Number

Programming Steps

1. Press the DIRECTORY NUMBER flexible button **(FLASH 45, Page A, Button #6)**.

2. Enter a valid number (0-9,*,#) on the dial pad (up to 24 digits). This number is sent as the calling party number on all channels of the selected PRIB.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Max Out I-Frames

Programming Steps

1. Press the MAX OUT I-FRAMES flexible button **(FLASH 45, Page A, Button #7)**.

2. Enter a valid number (000-127) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Leading 1

Programming Steps

1. Press the LEADING 1 flexible button **(FLASH 45, Page A, Button #8)**.

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

0 disables the leading 1 from being sent to the CO when users dial national long distance numbers. 1 enables the leading 1 to be sent to the CO on national long distance numbers. If enabled, and the user does not dial a 1, the 1 will automatically be applied. Default = Enabled

Leading 011

Programming Steps

1. Press the LEADING 011 flexible button **(FLASH 45, Page A, Button #9)**.

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

0 disables the leading 011 from being sent to the CO when users dial international numbers. 1 enables the leading 011 to be sent to the CO on international numbers. If enabled, and the user does not dial a 011, the 011 will automatically be applied. Default = Enabled

7/8 Digit Number Plan

Programming Steps

1. Press the 7/8 DIGIT NUMBER PLAN flexible button **(FLASH 45, Page A, Button #10)**.

7/8 DGT NUMBER PLAN 0-1 ITU

2. Enter a 0 or 1 on the dial pad to select the desired Number Plan.
   [0] = Selects ITU number plan
   [1] = Selects CO number plan
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

Default = ITU (ISDN plan)

When connecting a PRI to a Nortel DMS 100, enter a 1 for the number plan.

Nortel DMS 100 Only

1. Change Flash 45, button 10 (Numbering Plan) to CO by dialing 1 HOLD.
2. Set the definition in the DMS 100 Central Office Switch.
   - The DMS 100 Office refers to this switch as National or N12 Standard so they know not to look at this parameter in their switch.
   - LTDEF should be set to NI PRI N12 V1.

Calling Number

Programming Steps

1. Press the CALLING NUMBER flexible button **(FLASH 45, Page A, Button #11)**.

CALLING NUMBER 0-1 ENABLED

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

0 disables the calling party number from being sent to the CO. 1 will enable the calling party number feature and the number will be sent to the CO. Default = Enabled

Loopback

Programming Steps

1. Press the LOOPBACK flexible button **(FLASH 45, Page A, Button #12)**.

2. Enter a valid number (0-2) on the dial pad.
   [0] = Normal mode
   [1] = Near end mode
   [2] = Far end mode
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Default = Normal

10 Digit Number Plan

Programming Steps

1. Press the 10 DIGIT NUMBER PLAN flexible button **(FLASH 45, Page A, Button #13)**.

2. Enter a 0, 1, or 2 on the dial pad to select the desired Number Plan.
   [0] = Selects ITU number plan
   [1] = Selects CO number plan
   [2] = Unknown
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Default = ITU

11 Digit Number Plan

Programming Steps

1. Press the 10 DIGIT NUMBER PLAN flexible button **(FLASH 45, Page A, Button #14)**.

2. Enter a 0, 1, or 2 on the dial pad to select the desired Number Plan.
   [0] = Selects ITU number plan
   [1] = Selects CO number plan
   [2] = Unknown
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Description

Default = ITU

ISDN Programming - Page B

Programming Steps

1. Press **FLASH** and dial **[45]**. The following message displays:

```
ISDN ATTRIBUTES
SELECT A SLOT RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines (001-048 or 001-144) are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit.
4. Press button #20 to select Page B. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

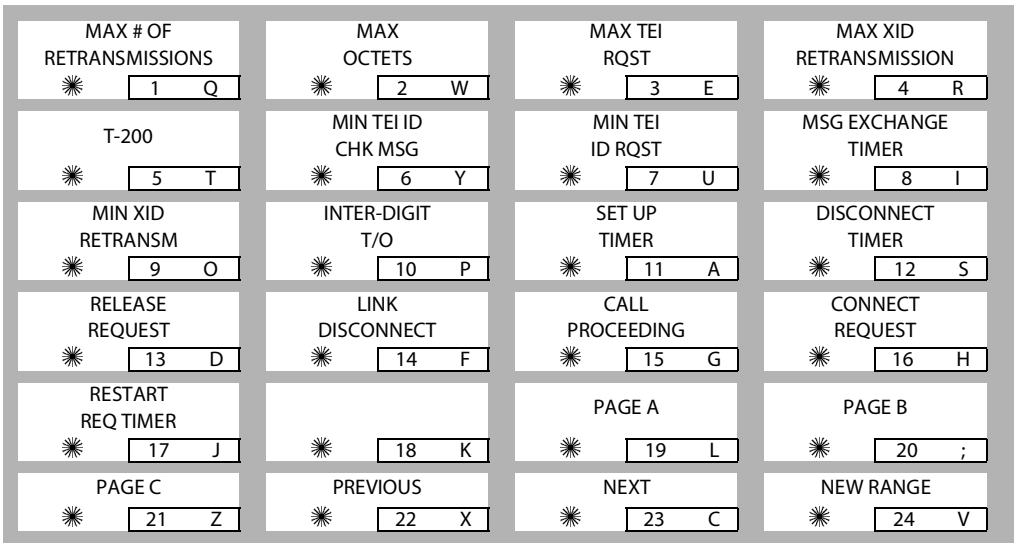
XXX-XXX = CO Line Range
001-048 = DVX^{Plus} II/III
001-144 = DVX^{Plus} IV

Description

When entering the CO Line attributes portion of the database, the programmer may decide to enter information for a range of CO lines or one specific CO Line. Range programming lets the programmer change a specific parameter or a few parameters for an entire range of CO Lines leaving intact the remaining data fields that do not require change.

IMPORTANT --
*These timers **should not be adjusted** UNLESS working with Tech Support or your phone company.*

Those data fields continue to operate with the previously programmed data.



Maximum Number Retransmission

Programming Steps

1. Press the MAX # RETRANSMSN flexible button **(FLASH 45, Page B, Button #1)**.

```
MAX # RETRANSMSN          0-9
N200            3
```

2. Enter a valid number (0-9) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Maximum Octets

Programming Steps

1. Press the MAX OCTETS flexible button **(FLASH 45, Page B, Button #2)**.

```
MAX OCTETS              000-999
N201          260
```

2. Enter a valid number (000-999) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates. (000 = Disable)

Maximum TEI ID Request

Programming Steps

1. Press the MAX TEI ID RQST flexible button **(FLASH 45, Page B, Button #3)**.

```
MAX TEI ID RQST         000-999
N202          003
```

2. Enter a valid number (000-999) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Maximum XID Retransmission

Programming Steps

1. Press the MAX XID RETRANSMISSION flexible button **(FLASH 45, Page B, Button #4)**.

```
MAX XID RETRANSMISSION    0-9
N204            3
```

2. Enter a valid number (0-9 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

T-200

Programming Steps

1. Press the T-200 flexible button **(FLASH 45, Page B, Button #5)**.

```
T200                          00-99
01
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Minimum TEI ID Check Message

Programming Steps

1. Press the MIN TEI ID CHK MSG flexible button **(FLASH 45, Page B, Button #6)**.

```
MIN TEI ID CHK MSG            00-99
T201              01
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Minimum TEI ID Request

Programming Steps

1. Press the MIN TEI ID RQST flexible button **(FLASH 45, Page B, Button #7)**.

```
MIN TEI ID RQST MSG           00-99
T202              02
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Message Exchange Timer

Programming Steps

1. Press the MSG EXCHANGE TIMER flexible button **(FLASH 45, Page B, Button #8)**.

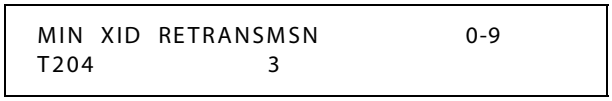
```
MSG EXCHANGE TIMER            00-99
T203              15
```

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Minimum XID Retransmission

Programming Steps

1. Press the MIN XID RETRANSMSN flexible button **(FLASH 45, Page B, Button #9)**.

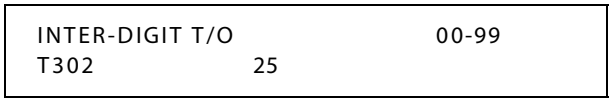


2. Enter a valid number (0-9 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Inter-Digit T / O

Programming Steps

1. Press the INTER-DIGIT T/O flexible button **(FLASH 45, Page B, Button #10)**.

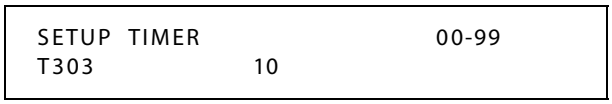


2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Set-Up Timer

Programming Steps

1. Press the SET UP TIMER flexible button **(FLASH 45, Page B, Button #11)**.

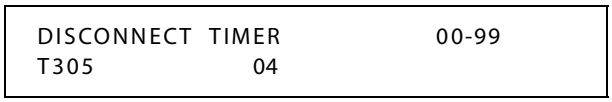


2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Disconnect Timer

Programming Steps

1. Press the DISCONNECT TIMER flexible button **(FLASH 45, Page B, Button #12)**.

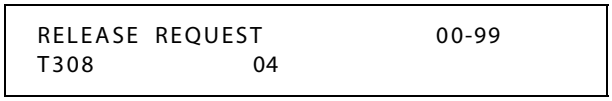


2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Release Request

Programming Steps

1. Press the RELEASE REQUEST flexible button **(FLASH 45, Page B, Button #13)**.

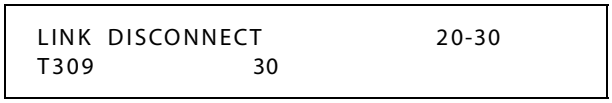


2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Link Disconnect

Programming Steps

1. Press the LINK DISCONNECT flexible button **(FLASH 45, Page B, Button #14)**.

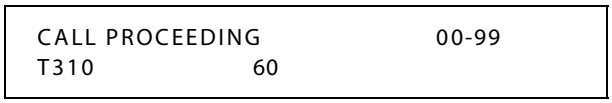


2. Enter a valid number (20-30 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Call Proceeding

Programming Steps

1. Press the CALL PROCEEDING flexible button **(FLASH 45, Page B, Button #15)**.



2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Connect Request

Programming Steps

1. Press the CONNECT REQUEST flexible button **(FLASH 45, Page B, Button #16)**.

2. Enter a valid number (00-99 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

Restart Request Timer

Programming Steps

1. Press the RESTART REQ TIMER flexible button **(FLASH 45, Page B, Button #17)**.

```
RESTART REQ TIMER          0-200
T316          120
```

2. Enter a valid number (0-200 seconds) on the dial pad.
3. Press the HOLD button. A confirmation tone sounds and the display updates.

T-1 Alarm Programming

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[47]**. The following message displays:

```
T1 ALARM
ENTER BUTTON NUMBER
```

2. Press a button (1-7) that represents the desired alarm setting.
   - These settings govern all T-1 Trunk cards installed in the system.
   - The LED lights steady when the button is pressed.
   - Once the desired alarm is selected, the following conditions can be programmed:

     Button #12 = Clears the alarm

     Button #13 = Minor threshold setting

     Button #14 = Major threshold setting

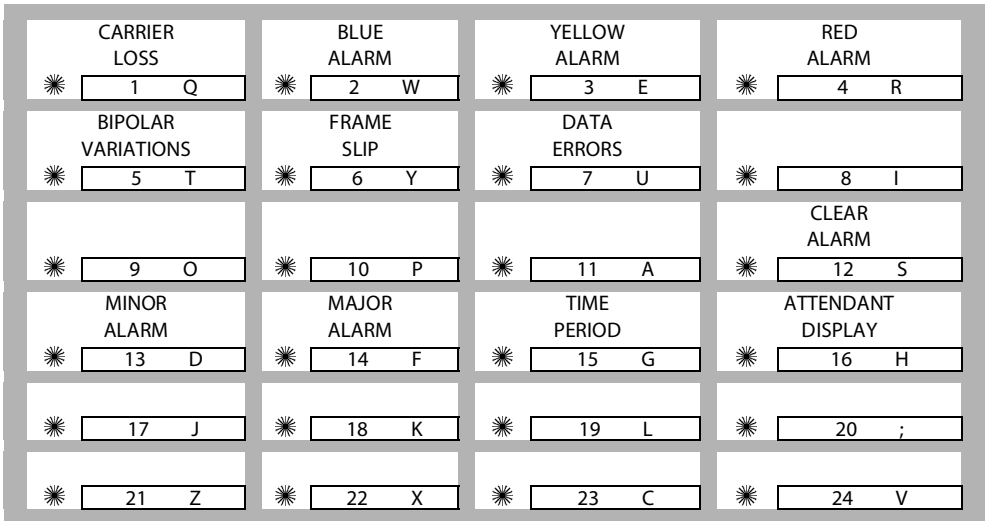
     Button #15 = Time period for Minor/Major alarms

     Button #16 = Sends LCD message of Major alarms to first Attendant Station

Description

The T-1 Trunk card and the system software provide tools to help detect and isolate problems which may occur with the T-1 circuit. There are six LEDs mounted on the outside edge of the T-1 Trunk card which either light or flash to indicate a variety of conditions on the T-1 circuit. The Central Office Maintenance Center can send a command to place the CSU into Line Loop Back mode. If there is no CSU, the T-1 Trunk card responds to the Line Loop Back command.

The buttons on the digital telephone are defined as shown below when entering the T-1 Alarm programming area:



Enable/Disable (Carrier Loss Alarm)

Programming Steps

1. Press the CARRIER LOSS flexible button **(FLASH 47, Button #1)**. Button #1 and Button #11 LEDs are lit steady. The following message displays:

```
CARRIER LOSS                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Description

A Receive Carrier Loss (RCL) condition is declared when no bits have been received by the T-1 Trunk card for 150ms. It causes an Out of Frame (OOF) condition, and 2.5 seconds later a RED Carrier Failure Alarm (CFA) state. During the time the RCL and RED alarm are declared, incoming and outgoing signal bits are frozen. Outgoing calls cannot be made. By default, the Carrier Loss alarm is enabled on all T-1 trunks.

Blue Alarm

Programming Steps

1. Press the BLUE ALARM flexible button **(FLASH 47, Button #2)**. Button #2 and Button #11 LEDs are lit steady. The following message displays:

```
BLUE ALARM                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.
4. Continue programming the Blue Alarm parameters using the steps provided earlier in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

Description

The Blue Alarm signal is an unframed all ones signal. It is transmitted by a remote device (usually a CSU) and when received, indicates a transmission failure upstream of that device toward the local end. The AIS alarm signal is also known as the *keep alive* signal in that it prevents the T-1 circuit repeaters from malfunctioning when transmit from the remote end is lost. By default, the Blue Alarm is enabled for all T-1 Trunks.

Yellow Alarm

Programming Steps

1. Press the YELLOW flexible button **(FLASH 47, Button #3)**. Button #3 and Button #11 LEDs are lit steady. The following message displays:

```
YELLOW ALARM                  0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.
4. Continue programming the Yellow Alarm parameters using steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

Description

The Yellow Alarm is recorded when the T-1 Trunk card detects a yellow Carrier Failure Alarm (CFA) signal from the distant end for a minimum 335 ms (for D-4 framing). The Yellow Alarm is transmitted by the remote system because of a RED alarm condition there. By default, the Yellow Alarm is enabled for all T-1 Trunks.

Red Alarm

Programming Steps

1. Press the RED ALARM flexible button **(FLASH 47, Button #4)**. Button #4 and Button #11 LEDs are lit steady. The following message displays:

```
RED ALARM                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.
4. Continue programming the Red Alarm parameters using the steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

Description

The Red Alarm is declared by the T-1 Trunk card when a loss of signal is detected, or an Alarm Indication Signal is received. A Red Alarm can be caused by a loss of carrier signal, a receive out of frame sync condition, or an alarm indication signal. By default, the Red Alarm is enabled for all T-1 trunks.

Bipolar Variations Alarm

Programming Steps

1. Press the BIPOLAR VARIATIONS flexible button **(FLASH 47, Button #5)**. Button #5 and Button #11 LEDs are lit steady. The following message displays:

```
BIPOLAR VARIATIONS           0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
4. Continue to program Bipolar Variations Alarm parameters using the steps in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period, and Attendant display.

Description

Excessive Bipolar Violations (BPV) are declared when a T-1 Trunk card detects a BPV rate in excess of $1x10^{+6}$ errors in 1000 seconds. By default, Bipolar Variations are enabled at all T-1 trunks.

Frame Slip Alarm

Programming Steps

1. Press FRAME SLIP flexible button **(FLASH 47, Button #6)**. Button #6 and Button #11 LEDs are lit steady. The following message displays:

```
SLIP                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.
4. Continue to program the Frame Slip Alarm parameters using steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

Description

When a Frame Slip or change in frame alignment is detected, the T-1 Trunk card freezes all incoming signaling states and realigns the receive buffer. If all alarm conditions are clear, signaling states are released and normal operation resumes. By default, Frame Slip is enabled on T-1 trunks.

Data Errors Alarm

Programming Steps

1. Press the DATA ERRORS flexible button **(FLASH 47, Button #7)**. Button #7 and Button #11 LEDs are lit steady. The following message displays:

```
DATA ERRORS             0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD button to save entry. A confirmation tone sounds and the display updates.
4. Continue to program the Data Error Alarm parameters using steps provided in this section for Clearing the alarm, Minor alarm, Major alarm, Time Period and Attendant display.

Description

By default, Data Errors Alarm is enabled for all T-1 Trunks.

Clear Alarm

Programming Steps

1. Press the CLEAR ALARM flexible button **(FLASH 47, Button #12)**. Button #12 LED is lit steady. The following message displays:

```
DATA ERRORS
CLEAR ALARM PRESS HOLD
```

2. Press the HOLD button to clear the alarm. A confirmation tone sounds.

Description

The Clear Alarm option allows the alarm condition reported to the Attendant Display to be cleared.

Minor Alarm

Programming Steps

1. Press the MINOR ALARM flexible button **(FLASH 47, Button #13)**. Button #13 LED is lit steady. The following message displays:

```
DATA ERRORS                    00-99
MINOR ALARM 15
```

2. Enter a valid number (00-99) on the dial pad which represents the threshold limit.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

If the error counter for an Alarm Code reaches the number programmed as a Minor Alarm within the time (in minutes) entered in the Time Period, the system reports a Minor Alarm condition. By default, the Minor Alarm threshold is set for 15 minutes and is variable from 00 to 99 minutes.

Major Alarm

Programming Steps

1. Press the MAJOR ALARM flexible button **(FLASH 47, Button #14)**. Button #14 LED is lit steady. The following message displays:

```
DATA ERRORS                    00-99
MAJOR ALARM 30
```

2. Enter a valid number (00-99) on the dial pad which corresponds to the time period limit.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

If the error counter for an Alarm Code reaches the number programmed as a Major Alarm within the time (in minutes) entered in the Time Period, the system reports a Major Alarm condition. By default, the Major Alarm threshold is set for 30 minutes and is variable from 00 to 99 minutes.

Time Period

Programming Steps

1. Press the TIME PERIOD flexible button **(FLASH 47, Button #15)**. Button #15 LED is lit steady. The following message displays:

```
DATA ERRORS                    00-99
TIME  PERIOD  05
```

2. Enter a valid number (00-99) on the dial pad which represents the time period limit.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Time Period option represents the length of time set for Minor and Major alarm conditions to occur. By default, the Time Period is set for five (5) minutes.

Attendant Display

Programming Steps

1. Press the ATENDANT DISPLAY flexible button **(FLASH 47, Button #16)**. Button #16 LED is lit steady. The following message displays:

```
DATA ERRORS                     0-1
ATT  DISPLAY  ENABLED
```

2. Enter a valid number (0 or 1) on the dial pad.

   [0] = No alarm

   [1] = Alarm enabled
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Attendant Display option determines whether the first Attendant station should be notified of any alarm conditions when they occur. By default, all alarm conditions are enabled to be sent to the first Attendant station LCD display.

4 Station Attributes Programming

This chapter describes the steps and procedures necessary to program station attributes.

Page A Introduction

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	**Flash 51 - Flexible Numbers**
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

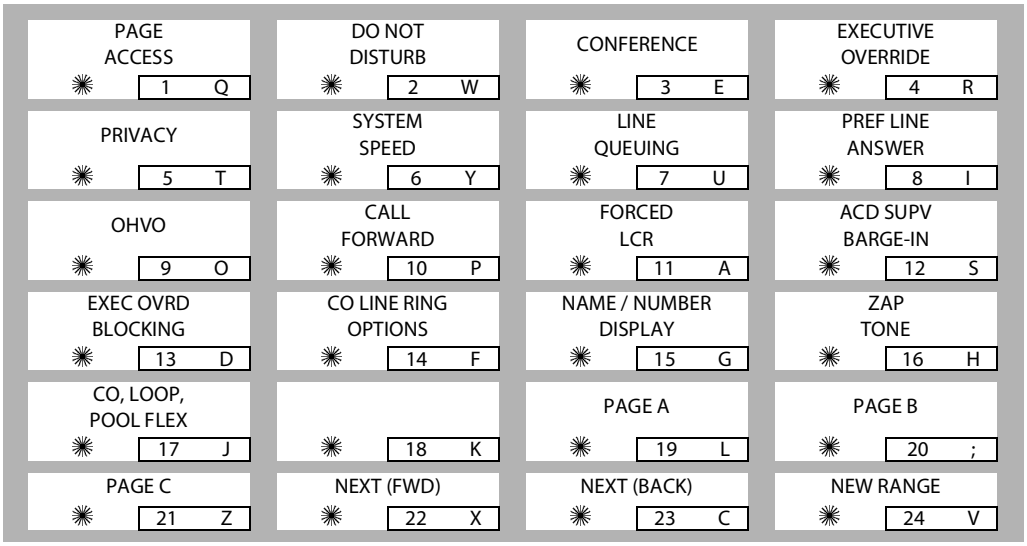
Description

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Range programming enables the programmer to change a specific parameter or a few parameters for a range of stations, leaving intact the remaining data fields not requiring changes. Those data fields continue to operate with the previously programmed data. By default, Page A is shown.

When programming the Page A features, the flexible buttons are mapped as follows:


PAGE ACCESS 1 Q
DO NOT DISTURB 2 W
CONFERENCE 3 E
EXECUTIVE OVERRIDE 4 R
PRIVACY 5 T
SYSTEM SPEED 6 Y
LINE QUEUING 7 U
PREF LINE ANSWER 8 I
OHVO 9 O
CALL FORWARD 10 P
FORCED LCR 11 A
ACD SUPV BARGE-IN 12 S
EXEC OVRD BLOCKING 13 D
CO LINE RING OPTIONS 14 F
NAME / NUMBER DISPLAY 15 G
ZAP TONE 16 H
CO, LOOP, POOL FLEX 17 J
18 K
PAGE A 19 L
PAGE B 20 ;
PAGE C 21 Z
NEXT (FWD) 22 X
NEXT (BACK) 23 C
NEW RANGE 24 V

Paging Access

Programming Steps

1. Press the PAGE ACCESS flexible button **(FLASH 50** or **51, Page A, Button #1)**. The following message displays:

```
PAGE ACCESS                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Stations can individually be allowed or denied the ability to make pages. This applies to all internal and external zone paging. A station denied access to paging may still answer a meet-me page announcement. (Station COS 6 does not deny a station the ability to make a page.) By default, Paging is enabled at all stations.

Do Not Disturb

Programming Steps

1. Press the DO NOT DISTURB flexible button **(FLASH 50** or **51, Page A, Button #2)**. The following message displays:

```
DO NOT  DISTURB              0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Stations can be individually allowed or denied the ability to place their telephone in Do Not Disturb. By default, Do Not Disturb is enabled at all stations. The first programmed Attendant cannot utilize DND.

Conference Enable / Disable (Per Station)

Programming Steps

1. Press the CONFERENCE flexible button **(FLASH 50** or **51, Page A, Button #3)**. The following message displays:

```
CONFERENCE                   0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Conference Enable/Disable feature lets the system be programmed on a per Station basis for the ability to initiate a conference.

Executive Override

Programming Steps

1. Press the EXECUTIVE OVERRIDE flexible button **(FLASH 50** or **51, Page A, Button #4)**. The following message displays:

EXEC OVERRIDE	0-1
DISABLED	

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Use of this feature when the Executive Override Warning Tone is disabled may be interpreted as a violation of federal, state, or local laws, and an invasion of privacy. Check applicable laws in your area before intruding on calls using this feature.

A change in volume may occur on the CO line or intercom call after the barge-in occurs.

Description

The Executive Override feature lets certain stations be designated as Executive stations with the ability to override and barge-in on other key sets engaged in a CO line or intercom conversation. If Supervisor Monitor with barge-in function is denied, this feature MUST be disabled An optional warning tone is programmed on a system wide basis to enable or disable the tone. This tone is presented to all parties prior to actual cut through of the third party.

The Executive Override Blocking feature (FLASH 50, Page A, Button #13) allows or disallows an Executive to override an extension. This prevents an extension with override capability from overriding designated stations.

By default, Executive Override is disabled for all stations. Supervisor Barge-In can be programmed in [FLASH 50/51, Page A, Button #12].

Privacy (Per Station)

Programming Steps

1. Press the PRIVACY flexible button **(FLASH 50** or **51, Page A, Button #5)**. The following message displays:

PRIVACY ENABLED	0-1

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Disabling the privacy feature may be limited by federal, state, and local law, so check the relevant laws in your area before disabling privacy.

For Single Line Telephones:

1. Enter a 0 or 1 on the dial pad to enable/disable the Camp-On feature.

   [0] = No Camp-On is allowed

   [1] = Camp-On is allowed

2. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system provides privacy on all communications in the system which prevents other stations from accidentally entering an existing conversation. However, the system provides the ability for a station to join an existing outside CO line conversation (on a per station basis). Each station can be granted the privilege to join an existing CO line conversation by simply pressing the CO line button of a CO line in use.

Privacy on an SLT can be useful in situations where a modem is using the SLT port for data transmission.Disabling this feature lets data transfer proceed without being interrupted with a Camp On tone. Both the station and the CO Line must have Privacy disabled before the system allows cut-through.

- If Privacy is disabled and a station joins an existing call, a programmable warming tone is presented to both parties prior to actual cut-through.
- If Privacy is disabled, up to eight other stations may join in on an existing conversation.

  Privacy is enabled for all stations in default.

Table 4-1: Station Privacy Flag

Station Attempting to Access CO Line	CO Line in Use by Another Station	
	Privacy Enabled	Privacy Disabled
Privacy Enabled	Private (No Cut-through)	Private (No Cut-through)
Privacy Disabled	Private (No Cut-through)	Privacy Released (Cut-through Allowed)

System Speed Dial Access

Programming Steps

1. Press the SPEED flexible button **(FLASH 50** or **51, Page A, Button #6)**. The following message displays:

```
SYSTEM SPEED                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Stations can be individually allowed or denied the ability to use system speed dial (100–999) numbers with expanded memory. (*System speed numbers 060-099 are not monitored by toll restriction.)* Stations cannot be prevented from using station speed dial. By default, System Speed Dialing is enabled at all stations.

When upgrading software from FP2 to FP3, all previously programmed speed dial buttons will be lost.

Line Queuing

Programming Steps

1. Press the QUEUING flexible button **(FLASH 50** or **51, Page A, Button #7)**. The following message displays:

```
LINE QUEUING                    0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Stations can be allowed or denied the ability to manually queue for a busy group of CO lines. Even when disabled, stations have automatic LCR queuing privileges. By default, CO Line Queuing is enabled at all stations.

Preferred Line Answer

Programming Steps

1. Press the PREF LINE ANSWER flexible button **(FLASH 50** or **51, Page A, Button #8)**. The following message displays:

```
PREF LINE ANSWER          0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Stations can be given the ability to answer a call by simply going off-hook. By default, Preferred Line Answer is enabled on all stations.

Off-Hook Voice Over (OHVO)

Programming Steps

1. Press the OHVO flexible button **(FLASH 50** or **51, Page A, Button #9)**. The following message displays:

```
OFF HOOK VOICE OVER       0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

When enabled, the Off-Hook Voice Over feature allows a digital station to receive OHVO while on a call. A station can be denied the ability to receive OHVO calls by disabling this feature. By default, Off-Hook Voice Over is disabled for all stations. The station must be in H or P mode to enable this feature.

Call Forwarding

Programming Steps

1. Press the CALL FORWARD flexible button **(FLASH 50** or **51, Page A, Button #10)**. The following message displays:

```
CALL FORWARD                0-1
ENABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Stations can be allowed or denied the ability to forward incoming CO calls, intercom calls, or transferred outside lines to another station or group. By default, Call Forwarding is enabled at all stations.

Forced Least Cost Routing (LCR)

Programming Steps

1. Press the FORCED LCR flexible button **(FLASH 50** or **51, Page A, Button #11)**. The following message displays:

```
FORCE LCR                   0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Stations may be forced to place outgoing CO calls by use of LCR (dial [9]) to access an outside line. This lets the system administrator control dialing patterns and lines used for outgoing CO calls. This can be enabled/disabled on a per-station basis for additional flexibility and control. Forced LCR is optional (disabled) for all stations, and eliminates access to all other line groups.

ACD Supervisor Monitor with Barge-In

Programming Steps

1. Press the SUPV BARGE-IN flexible button **(FLASH 50** or **51, Page A, Button #12)**. The following message displays:

```
ACD SUPV BARGE IN          0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

The use of Supervisor Monitor with Barge-In is limited by federal law and may also be limited or prohibited by state or local law, so check the relevant laws in your area before employing these features.

A change in volume may occur on the CO line or intercom call after the barge-in occurs.

Description

This feature is available with optional software. The ACD Supervisor Monitor with Barge-In feature provides a means for an ACD Supervisor to monitor an agent's call in progress and coach sales techniques or customer relations skills. When used, a supervisor may intrude into an agent's call in a listen-only mode or in a true conference mode. Prior to barge-in, a supervisor must log into the agent's group using the supervisor log-in code 576XXX. This feature is available with or without a warning tone. By default, the Supervisor Monitor with Barge-In feature is disabled.

Executive Override is a system feature and, therefore, takes precedence over this feature. If Supervisor Monitor with Barge-In is used properly, Executive Override MUST be disabled. Otherwise, the barge-in is performed with the MUTE button OFF.

Executive Override Blocking

Programming Steps

1. Press the EXECUTIVE OVERRIDE BLOCKING flexible button **(FLASH 50** or **51, Page A, Button #13)**. The following message displays:

```
EXEC OVERRIDE BLOCK        0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disabled
   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Executive Override Blocking feature allows or disallows override of an extension. This prevents a user with override capability from overriding a station. By default, Executive Override Blocking is disabled at all stations.

The Executive Override Blocking feature also blocks an ACD Supervisor Monitor with Barge-In.

CO Line Ringing Options

Programming Steps

1. Press the RINGING OPTIONS flexible button **(FLASH 50** or **51, Page A, Button #14)**. The following message displays:

```
CO RING OPTIONS              0-1
MUTED RING
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Reminder Ring

   [1] = Muted Ring
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

When a CO call rings at a busy station, the call rings at the station using a muted ring signal. This option lets a user receive a reminder ring at their station, instead of a muted ring. In addition, a Reminder Ring Timer has also been added to the system to provide the reminder ring every time the timer expires, for as long as the incoming CO line has not been disconnected. By default, Muted Ringing is allowed at all stations.

Name / Number Display At Idle

Programming Steps

1. Press the NAME/NUMBER DISPLAY flexible button **(FLASH 50** or **51, Page A, Button #15)**. The following message displays:

```
NAME AT IDLE LCD             0-1
NAME
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Extension Number

   [1] = Name
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Name/Number Display feature displays the standard idle LCD showing the programmed 7-digit name and station number together. This option is programmable on a per station basis, however, the feature must be enabled/disabled in admin programming.

If a station has this feature enabled but has not programmed a name, the name portion of the LCD is blank. The idle display priority is UCD/ACD, Hunt, Station/Name, or Station. By default, the Name displays on the LCD.

Zap Tone

Programming Steps

1. Press the ZAP TONE flexible button (**FLASH 50** or **51, Page A, Button #16)**. The following message displays:

```
ACD ZAP TONE                0-1
DISABLED
```

2. Enter a 0 or 1on the dial pad to enable/disable this feature.
   [0] = Disable feature
   [1] = Enable feature
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Zap Tone feature enables ACD agents in the headset mode, to have ACD calls connected to them automatically. The feature removes the requirement for the agent to press the ON/OFF button to answer ACD calls. ACD calls are connected when the agent is logged into any group and is available. By default, this feature is disabled.

CO Loop Pool

Programming Steps

1. Press the CO LOOP POOL flexible button (**FLASH 50** or **51, Page A, Button #17)**. The following message displays:

```
CO LOOP POOL FLEX           0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disable
   [1] = Enable
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The CO Loop Pool feature enables the station user to program CO Line, Loop, and Pool Keys using flexible button programming. By default, this feature is disabled.

Administration Access

Programming Steps

1. Press the ADMIN ACCESS flexible button (**FLASH 50** or **51, Page A, Button #18)**. The following message displays:

ADMIN ACCESS 0-1 DISABLED

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.
   [0] = Disable
   [1] = Enable
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Administration Access feature allows a station to access Database Administration. Each station can be enabled/disabled for system programming. By default, feature is disabled.

Station 100 always has programming access regardless of this setting.

Page B Introduction

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers

STATION ATTRIBUTES SELECT A STATION RANGE

Flash 51 - Flexible Numbers

ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX    PAGE A
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

4. Press button #20. The display updates to reflect current programming for Page B.

Flash 50 - Fixed Numbers

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = fixed station range

Flash 51 - Flexible Numbers

```
SXXX    PAGE B
ENTER BUTTON NUMBER
```

XXX = 3- or 4-digit flexible number

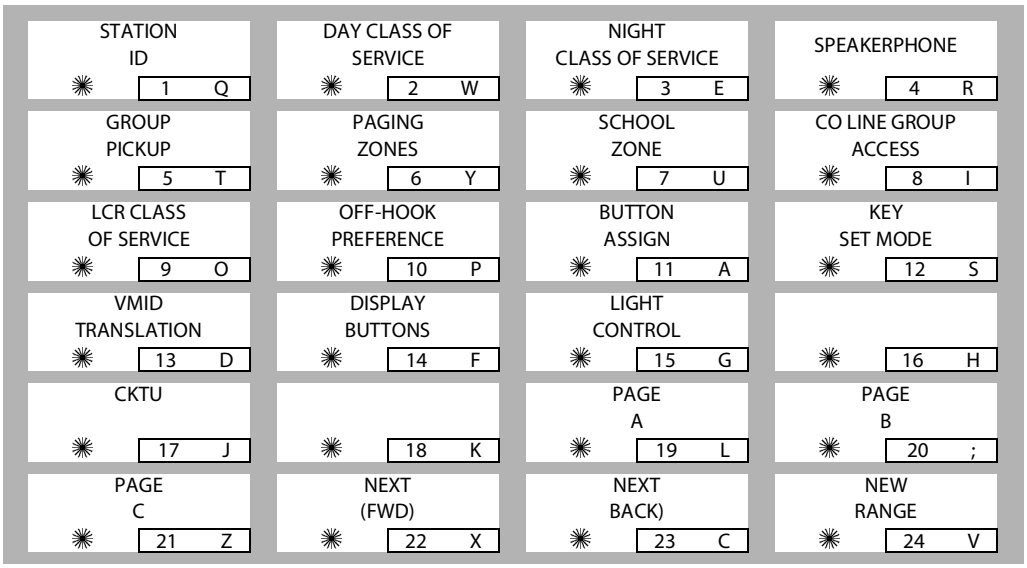
Description

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Range programming enables the programmer to change a specific parameter or a few parameters for a range of stations, leaving intact the remaining data fields not requiring changes. Those data fields continue to operate with the previously programmed data.

When programming the Page B features, the flexible buttons are mapped as follows:



Station Identification

Programming Steps

1. Press the STATION ID flexible button **(FLASH 50** or **51, Page B, Button #1**).

```
STATION ID                    0-8
KEYSET - INF24BTN
```

2. Enter a valid number on the dial pad to identify type of telephone:

[1-5] = DSS Console	[003] = 20-Btn Phone
[6] = SLT w/o Msg Wait	[012] = ECX 8-Btn Phone
[7] = SLT w/Msg Wait (90 Vdc)	[013] = ECX 12-Btn Phone
[000] = 24-Btn Phone	[014] = ECX 24-Btn Phone
[001] = 12-Btn Phone	[015] = SLA
[002] = 8-Btn Phone	[016] = Lg Disp 30-Btn Phone

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Each system port must be programmed to identify the type of station that operate on that port. Each station type must be identified. By default, all Key Telephone Boards (DTIB) default to ID 006 (24-Button Digital Telephone), all Single Line Boards (SLIB) default to ID 6.

When identifying a station as a DSS / BLF console, you must also enter the station number of the key telephone to which the DSS / BLF console is associated. To associate a DSS console with Station 100, the entry would be 1100 [HOLD].

Station ID for DSS/BLF Console With Map

Programming Steps

1. Dial **[1-5]** on the dial pad.
2. Enter a valid station number (*100-351*) to which the DSS/BLF Console is associated.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

```
STATION ID                    0-8
DSS MAP X A5SSOC XXX
```

X = 1-5

XXX = Station Range: 100-171 = DVXPlus II/III 100-351 = DVXPlus IV

MAP #1 by default has all 12 CO Lines and all 36 Stations, 100–135. This provides a default layout for a 12x36 configuration. Station/Feature buttons are flexible and can be changed by the station user. CO Line buttons are NOT changeable.

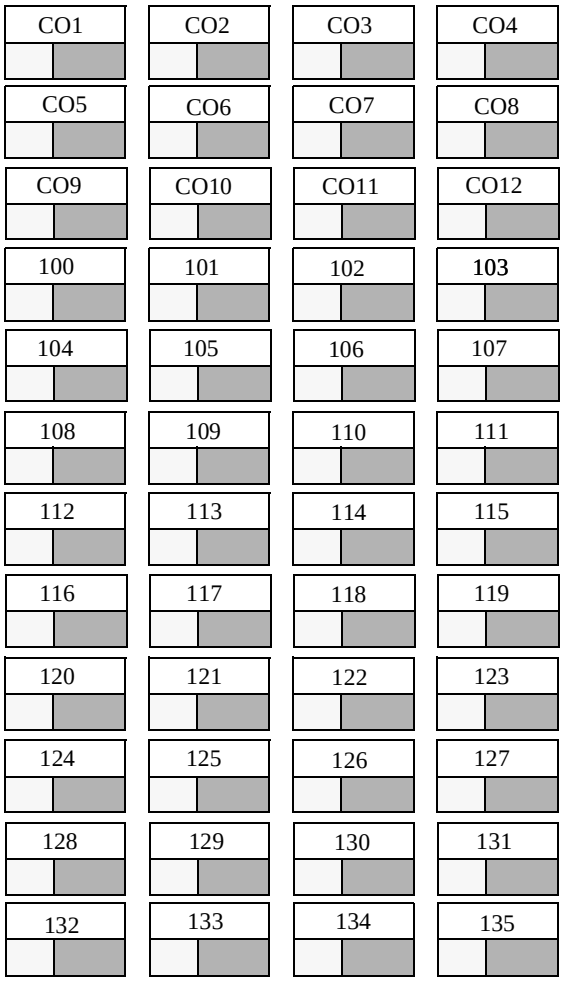


Figure 4-1: DSS Console Map #1 (12 CO Lines/Stations 100-135)

MAP #2 by default has 48 Stations, 100–147. All buttons are flexible and can be changed by the station user. This map can be duplicated on another DSS/BLF console and assigned to the same station.

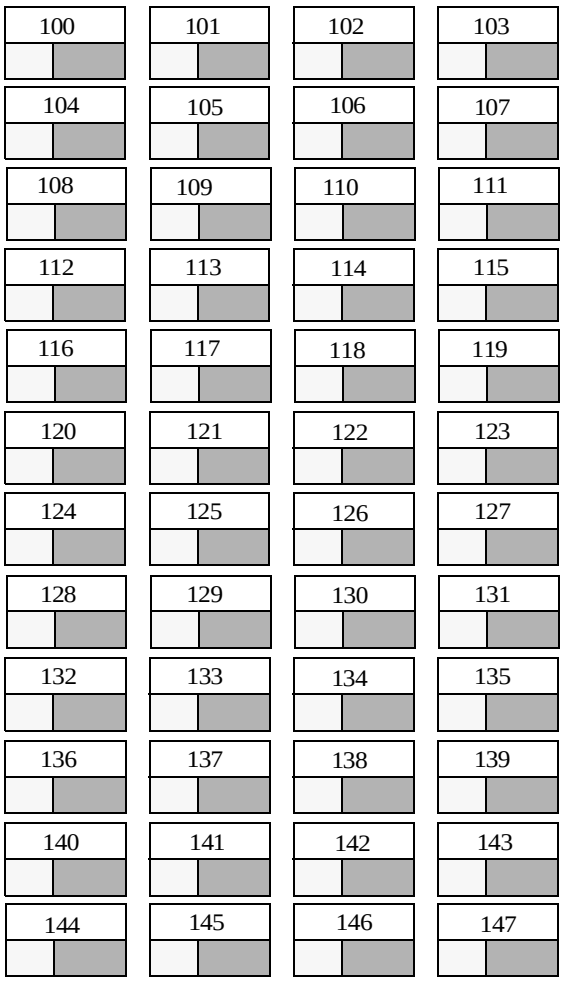


Figure 4-2: DSS Console Map #2 (Stations 100-147)

MAP #3 is intended to be used with Map #2 in that it has additional stations 148-195. All of the buttons on Map #3 are flexible and can be changed by the station user. This map can be duplicated on another DSS/BLF console and assigned to the same station.

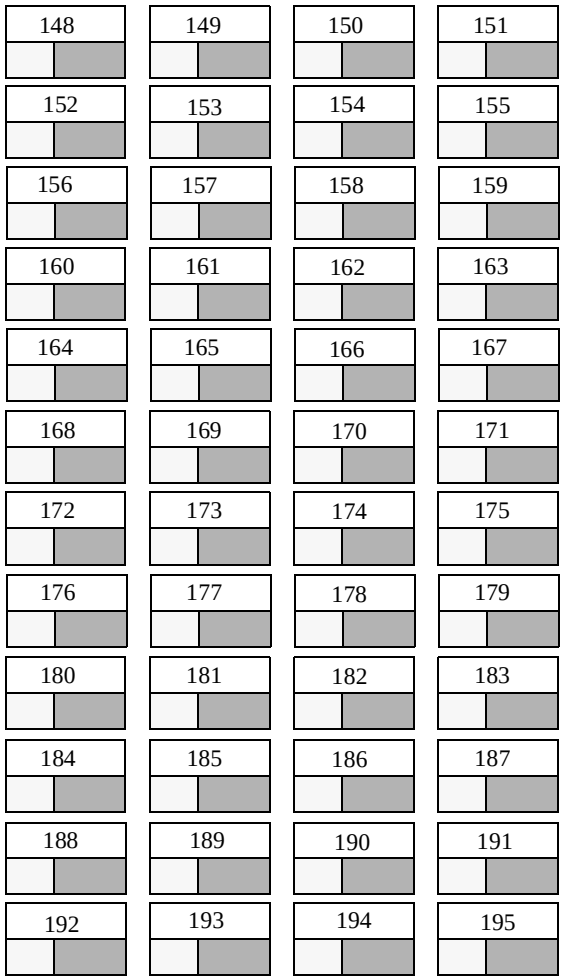


Figure 4-3: DSS Console Map #3 (Stations 148-195)

MAP #4 by default has CO Lines 1-48 that appear in sequential order.

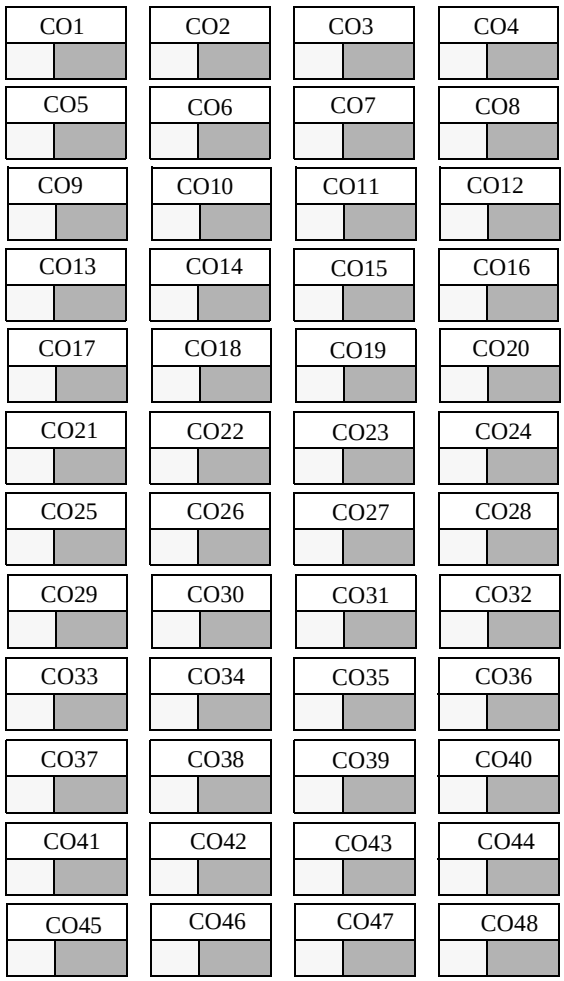


Figure 4-4: DSS Console Map #4 (CO Lines 1-48)

MAP #5 by default has CO Lines 49-96 that appear in sequential order. Provides the receiving station with CO Line buttons when used in conjunction with DSS Map #4 for 96 CO Line mapping.

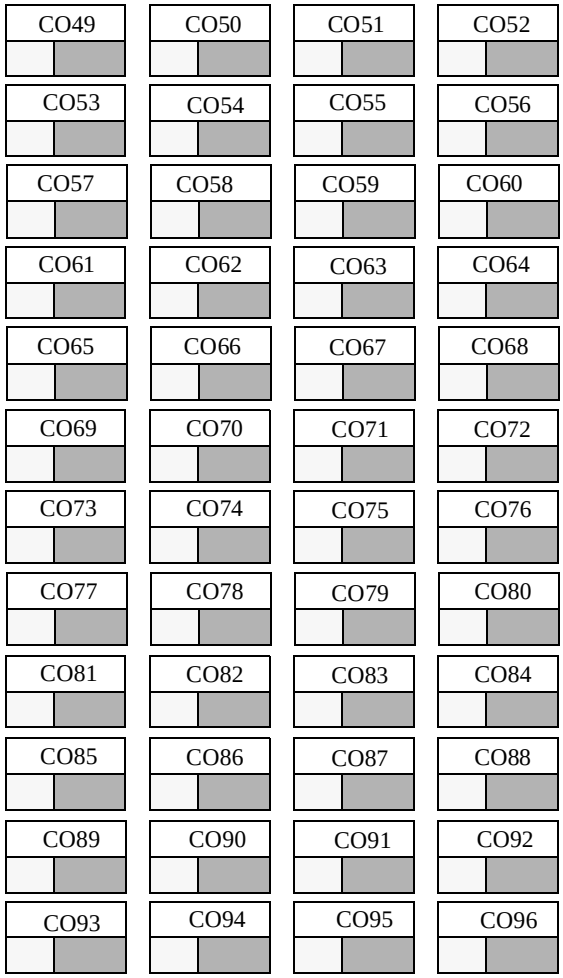


Figure 4-5: DSS Console Map #5 (CO Lines 49-96)

Station Day Class of Service (COS)

Programming Steps

1. Press the DAY COS flexible button **(FLASH 50** or **51, Page B, Button #2)**.

The seven classes of service are:

COS 1 = No restrictions

COS 2 = Table A governs

COS 3 = Table B governs

COS 4 = Table A and B govern

COS 5 = Restricts [0], [1], [✳], [#] dialed as first-digit with a 7-digit maximum

COS 6 = Intercom Only (no CO line access - results in a 911 block unless 911 Feature is active)

COS 7 = Restricts [0], [1], [✳], [#] dialed as first-digit with a 10-digit maximum

2. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Each station must be assigned a certain COS for Day Mode operation and for Night Mode operation. Class of Service (COS) determines the station's dialing privileges. By default, all stations are assigned a COS 1 for Day Mode.

Table 4-2: Class of Service (COS)

STATION COS	CO Line Class of Service 1	2	3	4	5
1	Unrestricted	Unrestricted	Unrestricted	Canned Restricted*	Unrestricted
2	Table A	Table A	Unrestricted	Canned Restricted*	Unrestricted
3	Table B	Unrestricted	Table B	Canned Restricted*	Unrestricted
4	Table A&B	Table A	Table B	Canned Restricted*	Unrestricted
5	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted
6	Intercom Only	Intercom Only	Intercom Only	Intercom Only	Intercom Only
7	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted

** Canned Restriction: No [0], [1], [#], [*] as first dialed digit, and 7-digit dialing limitation; plus 1-800, 1-888, 1-866, 1-877, 1-911, 1-611 are allowed, and 411, 976, and 555 numbers are denied. COS 7 allows 10-digit dialing maximum.*

Station Night Class of Service (COS)

Programming Steps

1. Press the NIGHT COS flexible button **(FLASH 50** or **51, Page B, Button #3)**.

   The seven Classes of Service are:

   COS 1 = No restrictions.

   COS 2 = Table A governs

   COS 3 = Table B governs

   COS 4 = Table A and B govern

   COS 5 = Restricts [0], [1], [✳], [#] dialed as first-digit and places a 7-digit maximum.

   COS 6 = Intercom Only (no CO line access - results in a 911 block unless 911 Feature is active)

   COS 7 = Restricts [0], [1], [✳], [#] dialed as first-digit with a 10-digit maximum.

2. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Each station must be assigned a COS for Night Mode operation. The Night COS goes into affect when the system is manually or automatically placed into Night Mode. This prevents misuse of phones after hours. Class of Service (COS) determines the station's dialing privileges. By default, all stations are assigned a COS 1 for Night Mode.

Speakerphone/Headset

Programming Steps

1. Press the SPEAKERPHONE flexible button **(FLASH 50** or **51, Page B, Button #4)**. The following message displays:

2. Enter a valid number (0-4) on the dial pad to identify the speakerphone operation.

   [0] = Works as normal speakerphone. Full speakerphone capabilities on CO lines and Intercom.

   [1] = Speakerphone enabled for intercom calls only. Speakerphone capabilities disabled for outgoing CO line calls (monitoring and on-hook dialing are still permitted).

   [2] = Permits toggle of speakerphone and headset operation via the [634] Headset code.

   [3] = Forces the telephone to always ring in the tone intercom mode.

   [4] = Forces the telephone to the hand-free intercom mode always.

3. Press HOLD to save the entry. A confirmation tone sounds.

Description

Speakerphones are programmable. By default, all stations are assigned an ID of 0 (Full Speakerphone).

Pickup Group(s)

Programming Steps

1. Press the GROUP PICKUP flexible button **(FLASH 50** or **51, Page B, Button #5)**. The following message displays:

```
PICKUP GROUPS                    0-8
1
```

2. Enter a valid number (1-8) to program Pickup Groups.

[0] = No Group	[5] = Group 5
[1] = Group 1	[6] = Group 6
[2] = Group 2	[7] = Group 7
[3] = Group 3	[8] = Group 8
[4] = Group 4	

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Stations are assigned to pick-up groups. Stations can be in any combination of the eight groups or in no group at all. By default, all stations are in Group 1.

Paging Zone(s)

Programming Steps

1. Press the PAGING ZONES flexible button **(FLASH 50** or **51, Page B, Button #6)**. The following message displays:

```
PAGE ZONE                        0-8
1
```

2. Enter a valid number (1-8) to program Paging Zone(s).

[0] = No Zone	[5] = Zone 5
[1] = Zone 1	[6] = Zone 6
[2] = Zone 2	[7] = Zone 7
[3] = Zone 3	[8] = Zone 8
[4] = Zone 4	

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Stations are assigned to Page Zones. At least one station must be assigned to a Zone for that Zone to be active. Stations can be in any combination of the eight zones or in none of the zones. By default, all stations are in Zone 1.

School Zone Station Assignments

Programming Steps

4. Press the SCHOOL ZONE flexible button **(FLASH 50** or **51, Page B, Button #7)**. The following message displays:

SCHOOL ZONE	0-2
DISABLED	

5. Dial a valid number (0-2) to assign a station as an Administrator, Classroom, or as neither.

   0 = Disabled (neither Administrator or Classroom)

   1 = Administrator

   2 = Classroom

6. Press [HOLD]. A confirmation tone sounds.

DEFAULT … All stations are disabled (not assigned as an Administrator or a Classroom).

Description

The School Zone feature allows a person at a station(s) specified as an Administrator to control incoming calls for all stations specified as a Classroom. The Administrator controls the type of call forwarding and the call forwarding destination. Call forwarding types include All Call Forward, No Answer Call Forward, Busy Call Forward, and Busy / No Answer Call Forward. Valid call forwarding destinations include station numbers, hunt groups, UCD groups, and Voice Mail groups.

Stations to be included as part of the School Zone feature must be assigned in Admin programming (FLASH 50/51, Page B, Button #7) as either an Administrator station or as a Classroom station. After these assignments have been established, the Administrator can easily control call forwarding for the specified Classroom stations by using feature code 630 (School Zone call forwarding can also be controlled through the use of FLASH 09 in administrative programming).

Conditions

- A station can be assigned as an Administrator or as a Classroom, but not as both.
- A call from an Administrator station to a Classroom station overrides any School Zone call forward settings and the call rings at the Classroom station.
- School Zone call forwarding overrides station user call forwarding and DND.
- If an E-911 button is programmed, both audible and visual alert indications will be provided, regardless of School Zone call forward settings.
- The School Zone call forwarding feature does not apply to a Classroom station that is in a hunt group or an UCD group.
- Feature code 630 and 630# are fixed feature codes that cannot be changed in flexible number programming (FLASH 52).

Line Group Access - Station

Programming Steps

1. Press the CO LINE GROUP ACCESS flexible button **(FLASH 50** or **51, Page B, Button #8)**. The following message displays:

```
LINE GROUP ACCESS          1-23
1
```

2. To add a Line Group, enter a valid number (00, or 01–23) to designate the outside line groups that the station can access, press 1, and then press HOLD to save the entry. A confirmation tone sounds and the display updates.

00+1+HOLD = No Access (911 calls are blocked unless 911 Feature is active).
01+1+HOLD = Access to Group 1 by dialing Code 9 or 801 (Code 800 if 911 Feature is active).
Users access Line Groups 2-23 by dialing 802-823, respectively.

3. To delete a Line Group, enter a valid number (00, or 01-23), press 0, and then press HOLD. A confirmation tone sounds and the display updates.

Description

A station can access any combination of outside line groups, or a station may not be allowed access to outside lines. CO line groups are used primarily by single line telephones or for flexible buttons assigned as pooled group buttons on a Key Telephone. By default, stations are allowed access to Group 1.

LCR Class of Service (COS)

Programming Steps

1. Press the LCR COS flexible button **(FLASH 50** or **51, Page B, Button #9)**. The following message displays:

```
LCR CLASS OF SERVICE       0-6
0
```

2. Enter a valid number (0–6) to correspond to the LCR Class of Service desired.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Stations can be given a class of service assignment for Least Cost Routing. The range is between 0-6, with 0 being unrestricted and 6 the most restricted. A station can use LCR routes with a priority number equal to or higher than the stations LCR COS assignment. Stations are given unrestricted access (0).

Off-Hook Preference

Programming Steps

1. Press the OFF-HOOK PREF flexible button **(FLASH 50** or **51, Page B, Button #10)**. The following message displays:

```
OFF HOOK PREFENCE BTN       XXY
00  DISABLED
```

2. Enter a valid button number (01–24) or (00) to indicate no specific button is preferred. (SLTs use [01] to enable or [00] to disable.)
3. Enter a 0 or 1 to disable/enable the Off-Hook Preference as follows:

   [0]= Disables programmable preference so users may not change the off-hook preference as set in programming. Also use for SLT stations.

   [1]= Enables programmable preference to key station users so that they may change the off-hook preference through a user dial code.
4. Press HOLD. A confirmation tone sounds and the display updates.

Description

The Off-Hook Preference feature lets a key station user automatically have a flex button selected when going off-hook or when pressing the ON/OFF button.

Key station users can select and/or change their off-hook preference through the use of a dial code [691]+BB (01-24). Dialing [691]+00 disables Off-Hook Preference. This user programmable preference may be allowed or denied in programming.

An SLT user can automatically access one of several features when going off-hook. These features include:

- CO Line
- CO Line Group
- Least Cost Routing
- Direct Station Selection (DSS)
- Hunt Group
- UCD/ACD Group
- Voice Mail Group

When establishing an off-hook preference for SLT stations, it is necessary to program the SLT's CO line or CO line group to access when going off-hook, using a flex button programming procedure.

Administrative programming must be completed in both Flash 50/51, Page B, Button #10 and Button #11 for the Off-Hook Preference function to work. Refer to *"Flexible Button" on page 4-28*.

By default, all digital telephones can change their preference, but no button is assigned (00). SLT stations cannot change their preference.

Flexible Button

Programming Steps

1. Press the BUTTON ASSIGN flexible button **(FLASH 50** or **51, Page B, Button #11)**. The following message displays:

```
FLEX BUTTON PROG
ENTER BUTTON DATA
```

2. Enter a valid button number [01-24] to program.
3. Select the desired section from the following and complete the required steps:

To Assign a Feature Button (user programmable):

Enter: [BB], [0], [HOLD]

BB = Flexible Button Number

To Assign a CO Line Button:

Enter: [BB], [1], [LLL], [HOLD]

BB = Flexible Button Number

1 = Code for CO Line Button (feature is user changeable)

LLL = CO Line (DVXPlus II/III =001-048, DVXPlus IV=001-144

```
01      1       001     HOLD
02      1       002
03      1       003
 |      |       |
Button  CO      CO
Number  Code    Line
```

To Assign a Loop Button:

Enter: [BB], [2], [HOLD]

BB = Flexible Button Number

2 = Code for Loop Button

```
05      2       HOLD
 |      |
Button  Loop
Number  Code
```

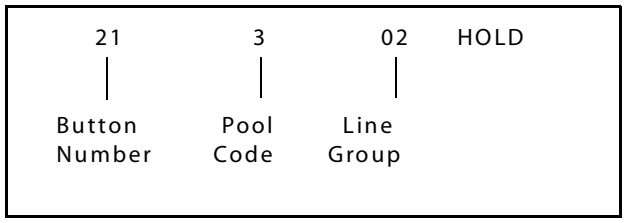
To Assign a Pool Group Button:

Enter: [BB], [3], [GG], [HOLD]

BB = Flexible Button Number

3 = Code for Pool Button for Specific Group

GG = Line Group Number (00-23)



When upgrading software from FP2 to FP3, which supports this feature, all previously programmed trunk groups will be lost.

To Assign a Feature Button (admin programmable):

Enter: [BB], [4], [XXX], [HOLD]

BB = Flexible Button Number

4 = Code for Feature Button (feature is programmed by system administrator)

XXX = Desired Feature Code

*The following are the only features and default feature codes that pertain to **SLT**, regarding "virtual" feature buttons and off-hook preference:*

-- CO Group	*refer to following procedure "To Assign a CO Pool Group..."*
-- CO Line	*refer to following procedure "To Assign a CO Line for an SLT..."*
-- Station LCR	*9 or 800*
--Station DSS	*3- or 4-digit station numbers*
-- Station Hunt Group	*450-457*
-- UCD/ACD Group	*550-557/550-565*
-- VM Group	*440-447*

To Unassign (lock out) a Button:

Enter: [BB], [#], [HOLD]

BB = Flexible Button Number

 # = Code to Unassign/Lock Out a Button

To Assign a CO Line for an SLT (with off-hook preference):

Enter: [01], [1], [LLL], [HOLD]

LLL = CO Lines (DVXPlus II/III =001-048, DVXPlus IV=001-144)

To Assign a CO Pool Group for an SLT (with off-hook preference):

Enter: [01], [3], [GG], [HOLD]

GG = Line Group Number (00-23)

Description

Each Digital Telephone has 8, 12, or 24 flexible buttons that can be programmed. One of the following operations can be selected in administrative programming for each button.

- Assign a Flexible Button (user programmable)

  When a button is assigned as a Flexible button, the user then has the ability to program any features or functions (to which the user has access) on the buttons.

- Assign a CO Line Button

  Buttons assigned as specific CO line buttons will provide access and appearance of the CO line at the station. The station will receive all call status indications such as LED flash rates for incoming ringing, when the line has been placed on hold, etc.

- Assign a Loop Button

  A Loop Button can be used for a station without a direct CO line appearance, so that the user can answer the line ringing in or transferred to the station. This is recommended for all stations, so that users can receive a transferred call on a line for which they have no button access.

- Assign a Pool Group Button

  Selected CO Lines can be grouped together and accessed via a POOL Button for the purpose of placing an outgoing CO Line call. When the POOL button is pressed, the system accesses the highest numbered unused CO Line in that CO Line group.

- Assign a Feature Button (admin programmable)

  This feature enables the system administrator to assign specific feature functions to a flexible button of one or more telephones within the system. Range programming can be used to assign the same function to a button on multiple stations. For a listing of the features, refer to *Appendix C, "Default Numbering Plan."*

- Unassign (lock out) a Button

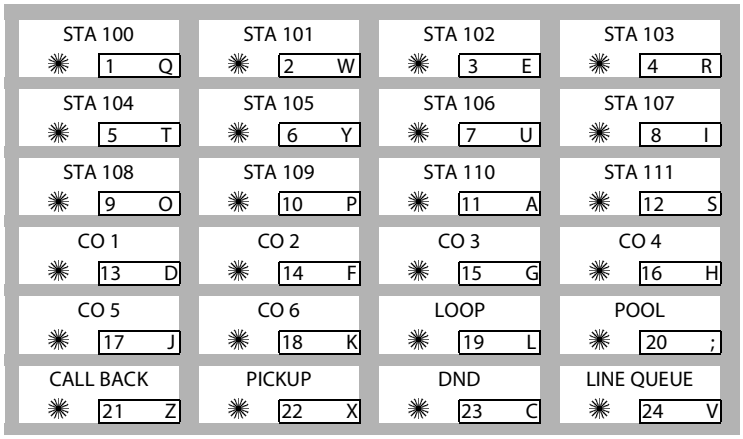
  Specific buttons may be assigned as unused or locked out. When a button is programmed as unused, the button may not be programmed by the station user using flexible button programming procedures. To reverse the locked out assignment of a button, the system administrator uses programming steps to Assign a Flexible Button.

One of the following can be selected in administrative programming for use with SLT Off-Hook Preference.

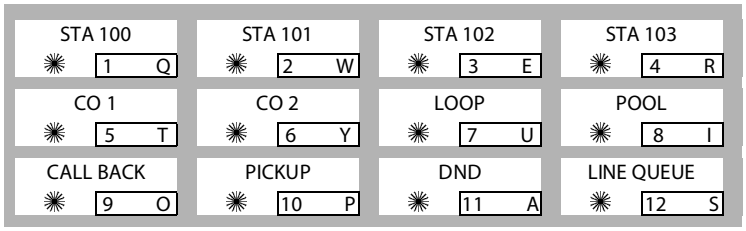
- Assign a CO Line for an SLT (with off-hook preference)
- Assign a CO Pool Group for an SLT (with off-hook preference)

Administrative programming must be completed in both Flash 50/51, Page B, Button #10 and Button #11 for the Off-Hook Preference function to work. Refer to "Off-Hook Preference" on page 4-27.

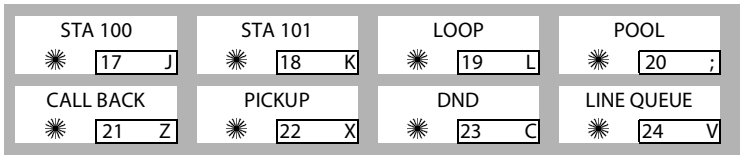
24-Button Default



12-Button Default



8-Button Default



Keyset Mode

Programming Steps

1. Press the KEYSET MODE flexible button **(FLASH 50** or **51, Page B, Button #12)**. The following message displays:

```
KEYSET MODE                    0-5
INACTIVE MODE
```

2. Enter a valid number (0-4) to change the mode of a digital telephone:
   [0] = Inactive Mode (normal mode without CTI box)
   [1] = PC Phone (*Discovery Desktop*) Mode at 4800 baud
   [2] = ATD Command Mode at 4800 baud
   [3] = ATH Command Mode at 4800 baud
   [4] = CKTU Mode at 4800 baud
   [5] = SPI Mode at 4800 baud
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Keyset Mode feature lets the station user determine the mode in which the Digital Telephone with CTI Box (optional) operates. The 5 modes are: Inactive, PC Phone (*Discovery Desktop*), ATD Command, ATH Command and CKTU. Through the use of a dial code, the station user can also determine the baud rate for each mode selected. This setting is stored in back-up memory in the event of a power outage or system reset. By default, Keyset is set for Inactive Mode.

Voice Mail ID Translation

Programming Steps

1. Press the VM ID TRANSLATION flexible button **(FLASH 50** or **51, Page B, Button #13)**. The following message displays:

```
VOICEMAIL ID              0000-9999
0100
```

2. Enter a VM ID number which corresponds to 0000 to 9999.
3. Press HOLD to update the table. A confirmation tone sounds and the display updates.

Description

The Voice Mail ID Translation feature enables programming of the station number sent to the Voice Mail via In-Band integration. By default, the station number is sent to the Voice Mail system. In station programming, there is a field to insert a 4-digit entry (0000-9999) which can be sent to the Voice Mail system in place of the station number. By default, Station Numbers are assigned as VMID Digits. (In FLASH 67, Button 4 toggles between 3 and 4 digits.)

Display Flexible Buttons

Programming Steps

Press the DISPLAY BUTTONS flexible button **(FLASH 50** or **51, Page B, Button #14)** to display programming assignments. The following message displays:

```
BUTTONS  XXX - YYY   01D100
02D101  03D103   04D104
```

XXX = Station Number

BB = Button Number

YYY = Button Function (Refer to Table 4-3.)

Description

Each time the DISPLAY BUTTONS flexible button is subsequently pressed, the next four buttons display starting with the lowest button number.

- When a button is assigned as Flex Button [0], the user can program any features or functions on the buttons to which they have access.
- When the buttons are programmed with user programmed functions, the display shows the function assigned to the button.

Table 4-3: Flexible Button Display Designations

Flex Button	Designation	Flex Button	Designation
1LGIN	Agent Primary Login	LOOP	Loop
1LOUT	Agent Primary Logout	LNR	Last Number Redial
2LGIN	Agent Secondary Login	MMP	Meet Me Page
2LOUT	Agent Secondary Logout	MON	Monitor Key
A[AAAA]	ACD Group with Pilot Number	MRVM	Voice Mail Mailbox (Remote)
ACALM	Attendant Clear Alarm	MSG	Message Wait Key
ACCT	Account Code Enter	MUSIC	Background Music
AMEM	Agent Member Display	MUTE	Mute Key
ANS	Answering Mach. Emulation Mode	MVM[B]	Voice Mail Mailbox 1-8
AOVR	Attendant Override	M[ZZ]	Personalized Message w/ Msg Nbr
APAGE	All Call Page	NTS	Night Service
AUNA	Attendant DND	ODND	ACD Overflow Station Avail/Unavail
AUTOR	Auto Redial	OFW	Offnet Forward
AVL	ACD or UCD Avail/Unavail	OHP	Off-Hook Preference
B[9BBB]	Speed Dial Button with Bin Number	OHVO	Off-Hook Voice Over
C[XXXX]	Call Coverage (w/o ringing)	PARK[CCCC]	Call Park with Park Location
CAMP	Camp-On	PKUP	Pickup
CBAK	Call Back	PL[GG]	Pool with CO Line Group Number
CID	Caller ID Name/Number Toggle	PPARK	Personal Park
CIQ	ACD or UCD Calls in Queue	R[RRRR]	Remote Device
CLCRQ	Cancel LCR Queue	REL	Release Key
CONF	Conference Key	RPARK	Station Call Park
CQD	ACD Calls in Queue Display	SLGIN	Supervisor Login
CSM	Custom Message	SLOUT	Supervisor Logout
D[XXXX]	Call Coverage (with ringing)	SNR	Save Number Redial
DIALN	Dial By Name	SPD	Speed Directory Dial
DISCO	Disable CO Line Outbound	SPEED	Speed Key
DND	Do Not Disturb	STRC	Stop Internal Trace
DRG	Distinctive Ringing	STS	Supervisor Status Display
E911	E911 List	S[XXXX]	Station DSS / BLF
EAC	External All Call	U[UUUU]	UCD Group with Pilot Number
EOR	Executive Override	UNA	Universal Answer
EP[N]	External Page with Zone	VMREC	VM Record (One Touch Record)
FFW	Incoming Transfer CO Line	VOL	Gain Key
FLASH	Flash Key	V[VVVV]	VM Group with Pilot Number
FWD	Call Forward Key	XFER	Transfer Key
GPU	Group Pickup	---------- *LEGEND* ----------	
H[HHHH]	Hunt Group with Pilot Number	*[B]*	*Mailbox Number*
HELP	Agent Help	*[9BBB]*	*Speed Dial Bin Number*
HFREE	Headset Mode	*[AAAA]*	*ACD Group Pilot Number*
HOLD	Hold Key	*[CCCC]*	*Call Park Location*
HPT	Handsfree/Private/Tone toggle btn/switch	*[GG]*	*Pool or CO Line Group Number*
IAC	Internal All Call Page	*[HHHH]*	*Hunt Group Flexible Number*
IANS	ICLID Answered Call	*[LLL]*	*CO Line Number*
ICM	Intercom	*[N]*	*Page Zone Number*
IP[N]	Internal Page with Zone	*[RRRR]*	*Remote Device Number*
IUANS	Display ICLID Unanswered Calls	*[UUUU]*	*UCD Group Pilot Number*
LCR	LCR Access	*[VVVV]*	*Voice Mail Group Flexible Number*
LINEQ	CO Line Queue Key	*[XXXX]*	*Flexible Station Number*
L[LLL]	CO Line Button (CO Line [LLL])	*[ZZ]*	*Personalized Message Number*

Light Control

Programming Steps

1. Press the LIGHT CONTROL flexible button **(Flash 50** or **51, Page B, Button #15)**. The following message displays:

```
LIGHT CONTROL                0-4
NONE
```

2. Enter a valid number (0-4) to change the mode of an ICLID phone.
   [0] = None
   [1] = Button Incoming Ringing @ 480 ipm
   [2] = Voice Mail @ 240 ipm
   [3] = Message Wait @ 60 ipm
   [4] = Headset @ Steady
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Light Control feature allows the light above the LCD on the Enhanced/Executive digital telephones to be used as message wait, voice mail, headset off-hook, and ring indications. This feature can be programmed on a per station basis. By default, the Light Control is set for None.

Cordless KTU (CKTU) Feature Button

Programming Steps

Press the CORDLESS KEY flexible button (**Flash 50** or **51, Page B, Button #17**) to assign the FEAT Buttons. The following message displays:

```
CORDLESS KEY BTN             00-30
XX
```

XX = Assigned FEAT Button
00 = None
01-24 = Button 1-24 (01-30 for Large Screen Display telephone)

Description

If a CKTU is associated with the station, the FEAT Button on the CKTU may be assigned to function as any one (1) of the 24 Flexible Buttons on the telephone. This programming area defines which Flexible Button on the telephone is applied to the CKTU FEAT Button. Not all features are available to be assigned to the CKTU FEAT button. By default, no button (00) is assigned to the FEAT.

Page C Introduction

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[50]** or dial **[51]**. Flexible button #24 (New Range) is lit and one of the following messages displays:

Flash 50 - Fixed Numbers	Flash 51 - Flexible Numbers
STATION ATTRIBUTES SELECT A STATION RANGE	ENTER STATION NUMBER

2. Enter the range of **fixed** station numbers (100-351) to be programmed. If only one station is being programmed, enter that number twice, e.g., [100 100].

If HOLD is pressed without entering a station range, ALL stations are selected.

-or-

Enter a valid **flexible** number (100-8999) to be programmed.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 is lit. The display updates to reflect current programming for Page A:

Flash 50 - Fixed Numbers	Flash 51 - Flexible Numbers
XXX - XXX PAGE A ENTER BUTTON NUMBER	SXXX PAGE A ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

4. Press button #21. The display updates to reflect current programming for Page C.

Flash 50 - Fixed Numbers	Flash 51 - Flexible Numbers
XXX - XXX PAGE C ENTER BUTTON NUMBER	SXXX PAGE C ENTER BUTTON NUMBER
XXX-XXX = fixed station range	*XXX = 3- or 4-digit flexible number*

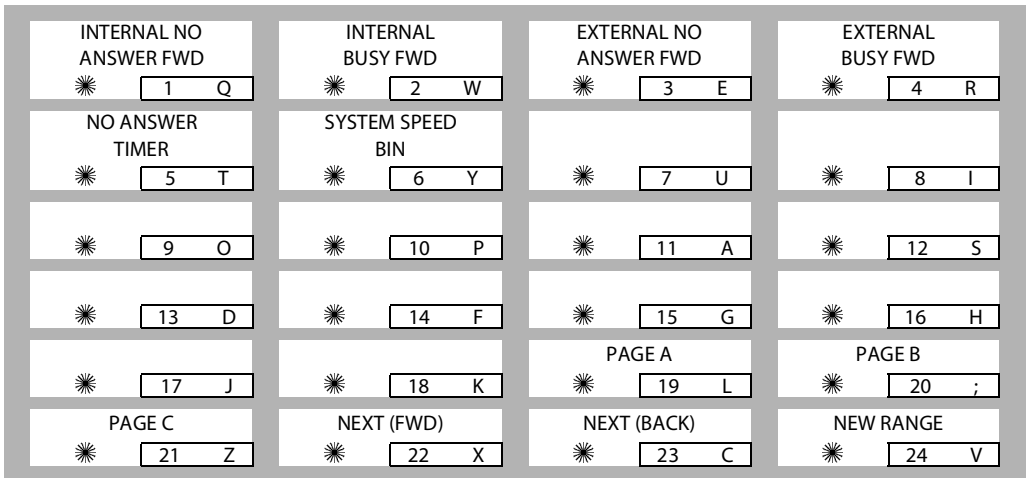
Description

Use Flash 50 programming when you want to modify a range of stations' attributes using **fixed** station numbers.

Use Flash 51 programming to modify a single station's attributes using a **flexible** station number.

Range programming enables the programmer to change a specific parameter or a few parameters for a range of stations, leaving intact the remaining data fields not requiring changes. Those data fields continue to operate with the previously programmed data.

When programming the Page C features, the flexible buttons are mapped as follows:



Preset Call Forward

Programming Steps

To program internal and external calls with separate Busy and No Answer destinations, perform the following steps.

Valid destination entries are:
9020-9999 = System speed bins
100-351 = Station numbers
440-447 = Voice mail groups
450-457 = Hunt groups
550-565 = ACD groups

Internal No Answer Destination

1. Press **FLASH 50** or **FLASH 51, Page C, Button #1**. The following message displays:

```
INTERNAL NO ANSWER FWD
####
```

2. Enter a valid number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

Internal Busy Destination

1. Press **FLASH 50** or **FLASH 51, Page C, Button #2**. The following message displays:

```
INTERNAL BUSY FWD
####
```

2. Enter a valid number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

External No Answer Destination

1. Press **FLASH 50** or **FLASH 51, Page C, Button #3**. The following message displays:

```
EXTERNAL NO ANSWER FWD
####
```

2. Enter a valid number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

External Busy Destination

1. Press **FLASH 50** or **FLASH 51, Page C, Button #4**. The following message displays:

```
EXTERNAL BUSY FWD
####
```

2. Enter a valid number and press HOLD.
3. To delete the entry, press the [#] key and then press HOLD.

No Answer Timer

1. Press **FLASH 50** or **FLASH 51, Page C, Button #5**. The following message displays:

```
NO ANSWER TIMER          00-99
10
```

2. Enter a valid number (00-99) and press HOLD (00=disable).

Description

The Preset Call Forward feature provides separate Busy and No Answer destinations for internal and external calls with a No Answer Timer associated to each station. External calls ringing that particular station, transferred calls, and internal calls follow this Preset Forward feature. By default, the Timer is set at 10 seconds.

Conditions

Station Forwarding overrides the Preset Forward settings.

Speed Dial Access

Programming Steps

1. Press the SPEED DIAL ACCESS button (**FLASH 50** or **FLASH 51, Page C, Button #6**). The following message displays:

```
SYS SPEED BIN                100-999
###-###
```

2. Enter a range of speed bins to be allowed (100-999).
3. Press HOLD to save the entry.

Description

The System Speed Dial Access feature has 900 entries available (with expanded memory). A station can be allowed or denied access to bins 100-999. Stations may be granted the ability to dial all Speed Dial Numbers within the range.

Flexible Numbering Assignment

Programming Steps

Press **FLASH** and dial **[52]**. The following message displays:

```
FIX: 100                     FLEX: 100
NAME: STATION 100
```

Selecting a Fixed or Flexible Code

1. Press Button 24 (Fixed) or Button 21 (Flex).
2. Enter the desired code to change.
3. Press HOLD. The Fixed and Flex Number as well as a description of the code displays on the LCD.

You can scroll through Fixed Codes by using the PREVIOUS button (23) or the NEXT button (22).

Changing a Flexible Code

1. Select the desired code.
2. Press Button 1. The red LED illuminates.
3. Delete the Flex Number by pressing button 2 and then pressing HOLD. The Flex number field will be blank
4. Enter the new code (2-4 digits).
5. Press HOLD.

Station/Pilot numbers can only contain 0-9.

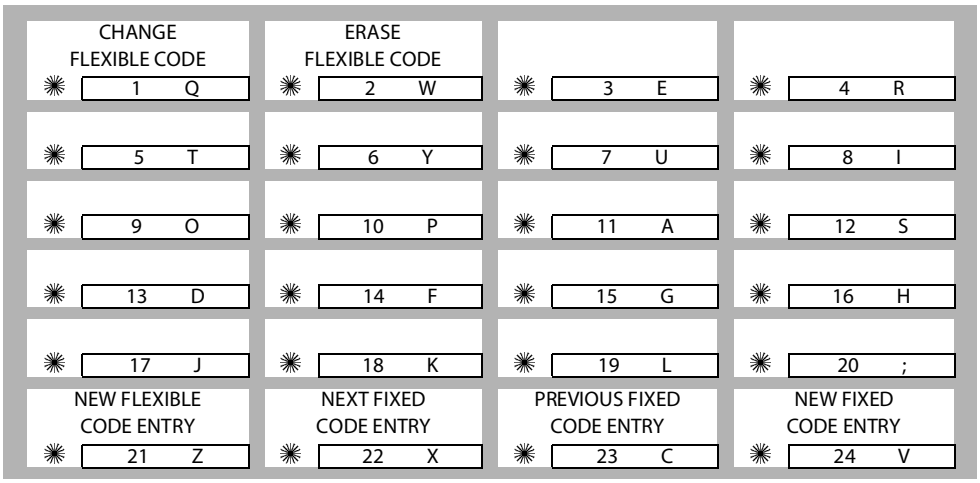
*Feature codes can contain 0-9, *, #.*

Erasing a Flexible Code

1. Select the desired code.
2. Press Button 1 (must be lit).
3. Press Button 2.
4. Press HOLD.

Description

The Flexible Numbering feature allows the system numbering plan to be modified from its default value to accommodate specific customer requirements. Station, Pilot, and Feature Access Code numbers may be changed with this feature. The length of these numbers may also be modified to meet specific customer applications. Refer to *Appendix C, "Default Numbering Plan."* The buttons on the key telephone are defined as shown when entering the Flexible Numbering Assignment feature programming area:



Conditions

- Feature access codes cannot conflict with station numbering.
- CO line numbers are fixed and cannot be changed other than the current FLASH 42 re-assignment.
- If no VM ID digits are programmed in the station field, the flexible number assigned to the station will be sent to the VM unit.
- Flash 06, Button #15 is the programming area to automatically assign the VMID digits to be the same as the flexible station numbering.
- The SMDR will output 4-digit numbers in the station field. If less than 4 digits is selected in the numbering plan, leading spaces will be added in place of the numbers. The 3-4 digit SMDR programming area will be removed from programming.
- The Discovery ACD event trace source and destination fields will be 4 digits. Station numbers less than 4 digits will be prefixed with leading zeros.
- The programming will print out as part of the CO-STA port programming area. The flexible numbering can be initialized in the CO-STA initialization area.
- The leading digit feature is removed in FP3. The leading digit feature is replaced by networking feature (FLASH 16).

5 ICLID (Caller ID) Route Programming

This chapter provides the functional and implementation definitions for adding the ICLID features to the *infinite DVX^{Plus} II/III/IV* System.

Introduction

ICLID, or Caller ID, is a service provided from the telephone company. Usually this service provides the number and name (not available in some cases) of the calling party for identification prior to answering the call. Calling party number and name are delivered in between this first and second ring using FSK (Frequency Shift Key) format.

For this feature to operate properly, it must be activated from the Central Office so the numbers or name, if available, of the calling party are delivered over the individual tip and ring of the CO lines during the first silent interval between ringing.

Calling Number / Name Display

Whenever an incoming call is received at the system, the number received with the ringing signal is stored in the line control tables and used during the call processing.

If two lines are ringing at the same time, the display shows the oldest line information. After one of the lines is answered, the display shows the information on the unanswered lines.

The *DVX*^{Plus}*II/III/IV* System can use the Caller ID information to display the number and/or name of the calling party on the system telephone display. By default, the system displays the telephone number of the caller. The system can be changed to display the name (if provided) in place of the telephone number.

The system also offers a Number/Name Translation Table. This allows numbers to be matched to names in a system table. If a name/number from the telephone company matches an entry in the table, the name programming in the table is presented in place of the name provided from the telephone company.

```
00000000011111111122222
12345678901234567890123 4
```

```
bbbbbNNNNNNNNNNNNNNbbbbb
```

-or-

```
XXXXXXXXXXXXXXXXXXXXXXXX
```

If no name is available, supplied from the Central Office or internally from the translation table, the delivered number is positioned centered in the display as shown above for the 14 Ns.

An option was added to the Local Number/Name Translation Table to route ICLID or Caller Entered ID Digits based on a partial compare with the number entered in the translation table.

Incoming Number/Name for SMDR Records

When the Incoming Number/Name feature is implemented, the system operates normally in the absence of ICLID information or the failure of the ICLID equipment. If the information is present at the time that an SMDR record is generated for a call, it alters the content and format of the SMDR output record.

- If the calling number is available, the number is output in the SMDR record in the same location as the dialed number is located in the outgoing call record.
- If the calling name is present, an additional line is output in the SMDR identifying the name. This record immediately follows the normal SMDR record. The normal SMDR record includes an indicator that states the following record with name identification is present.

Unanswered calls are recorded in the SMDR record for incoming calls with a U indicator to provide caller identification for statistical and call-back purposes.

ICLID Features

Programming Steps

1. Press **FLASH** and dial **[56]**. The following message displays:

```
ICLID  NAME  BAUD  PORT
NO     YES   9600  1
```

2. To program ICLID features, use the flexible button(s) as defined in the following procedures.

   Button # 1 = Disable/Enable

   Button # 2 = Name In Display

   Button # 3 = Baud Rate Display

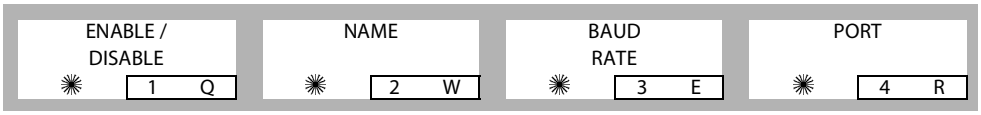
   Button # 4 = Port Assignment

3. After all entries are made, press HOLD to accept the data.

Description

The *DVX*^{Plus}*II/III/IV* System provides ICLID input on the RS-232C connector on the MPB, or to the optional SIU2 Module. When ICLID is desired, the following system-wide parameters determine how the ICLID information is distributed.

When entering the ICLID features programming area the buttons on the digital telephone are defined as shown below:



Enable / Disable

Programming Steps

1. Press the DISABLE/ENABLE flexible button **(FLASH 56, Button #1)**.
2. Enter a valid number (0 or 1) on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The ICLID (Incoming Calling Line IDentification) feature was added to the *DVX^{Plus}II/III/IV* System. These features are unavailable unless the Basic ICLID Software package was purchased separately. For this feature to operate properly, it must be activated from the Central Office so the numbers of the calling party are delivered over the individual tip and ring of the CO lines during the first silent interval between ringing. By default, ICLID is disabled.

Name in Display

Programming Steps

1. Press the NAME flexible button **(FLASH 56, Button #2)** to determine whether the name shows in the LCD display instead of the incoming telephone number.
2. Enter a 0 or 1 on the dial pad.

   [0] = Telephone number in display

   [1] = Name in display
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The system can be set to display the incoming telephone number or the person's name on the LCD display. By default, the system shows the telephone number on the LCD display.

Baud Rate Display

Programming Steps

The ICLID baud rate is programmed using **FLASH 15** Baud Rate assignments. The LCD displays the current baud rate based on which number is assigned to the ICLID Port number.

When FLASH 56, Button #3 is pressed, an error tone is received.

Description

The *DVX^{Plus}II/III/IV* System can provide ICLID input on the standard RS-232C on the optional MISU. The baud rate is displayed as 150, 300, 600, 1200, 2400, 4800, or 9600 baud. The default is 9600 baud.

Port Assignment

Programming Steps

1. Press the PORT flexible button **(FLASH 56, Button #4)** to determine which port to use for ICLID information.
2. Enter a valid number for one of the ICLID Ports:

   [1] = Port #1 MPB On-Board RS-232C (default)

   [2] = Port #2 On-Board Modem

   [3] = Port #3 Serial Interface Unit (SIU2)

   [4] = Port #4 Serial Interface Unit (SIU2)

   ```
   ICLID NAME BAUD PORT
    NO    YES  9600   1
   ```

   (LCD displays current baud rate assigned to the ICLID Port number.)
3. Press HOLD to accept the data. A confirmation tone sounds and the display updates.

   By default, the On-Board Modem baud rate is 2400 Baud.

6 Automatic Call Distribution (ACD)

The ACD Group feature is available with optional software.

ACD Group Programming

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

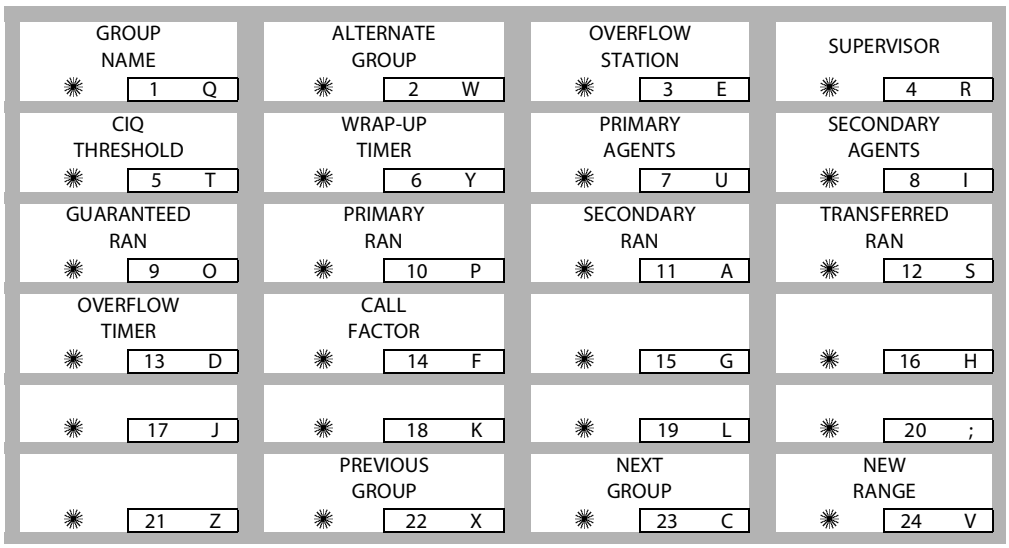
1. Press **FLASH** and dial **[60]**.
2. Enter the group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.

Description

There can be 16 ACD groups of up to 252 stations each. The ACD groups use a pilot hunting technique. If the pilot number is dialed, the assigned stations in that ACD group are searched for the station in an idle condition for the longest period of time.

Each ACD Group may have an assigned Alternate ACD Group, an Overflow Station, and up to 252 stations as ACD members. The eight system RAN ports (tables) may also be referenced on a per ACD group basis. By default, ACD Group Tables are empty.

The buttons on the digital telephone are defined as shown:



ACD Group Name

Programming Steps

1. Press the GROUP NAME flexible button **(FLASH 60, Button #1)**. The following displays:

```
AXXXX  NAME
   AXXXX
```

2. Enter the desired name using the dial pad (up to eight characters).

Table 6-1: Dial Pad Keys

Other Codes			
1 = 1#	8 = 8#	" = 01	* = *#
2 = 2#	9 = 9#	, = 02	(= #1
3 = 3#	0 = 0#	? = 03	) = #2
4 = 4#	Space = 11	/ = 04	+ = #3
5 = 5#	: = 12	! = *1	= = #4
6 = 6#	- = 13	$ = *2	# = ##
7 = 7#	' = 14	& = *4	. = 24

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A Group Name can be assigned to each of the 16 ACD groups to provide each with a unique identification. A Group Name only appears during a ringing ACD call. A Group Name is not presented on an idle display.

Alternate ACD Group Assignment

Programming Steps

To make an Alternate ACD Group:

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the ALTERNATE GROUP flexible button **(FLASH 60, Button #2)**. The following message displays:

```
AXXXX  ALTERNATE GROUP
####
```

5. Enter another ACD Group number to designate the Alternate ACD Group.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an Alternate ACD Group:

1. Press [#].
2. Then press the HOLD button.

Description

An Alternate ACD Group can be programmed so if no station in a group is available, the alternate group is checked for an available station. This provides a way to chain or link ACD groups together.

ACD Overflow Station Assignment

Programming Steps

To assign an ACD Overflow Station:

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the OVERFLOW ASSIGN flexible button **(FLASH 60, Button #3)**.
5. Enter a valid flexible station number to designate the ACD Group's overflow station.

```
AXXXX  OVERFLOW STATION
####
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an ACD Overflow Station:

1. Press [#] three times.
2. Then press the HOLD button.

Description

When an overflow station is assigned, callers that remain in queue for a specified amount of time are routed to the assigned overflow station. The overflow station may not be one of the ACD group stations. Only CO calls transferred to a ACD group overflow to the overflow station when RAN tables are assigned.

ACD Supervisor Station Assignment

Programming Steps

To establish an ACD Supervisor Station:

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the ACD SUPV flexible button **(FLASH 60, Button #4)**.

5. Enter a valid flexible station number of the desired ACD Supervisor station.

```
AXXXX  SUPERVISOR STA
####
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an ACD Supervisor Station:

1. Press [#] three times.
2. Then press the HOLD button.

Description

The ACD Supervisor Station assignment feature provides a means to assign each ACD group a supervisor. This Supervisor Station can receive the calls in queue display in real time, receives No Answer/Out of Service conditions, HELP displays from the groups to which the supervisor is assigned, and can barge-in on active calls in their ACD Group or groups.

A supervisor can be assigned in ADMIN to a group or groups to receive the help request and out of service (OOS) messages. If a supervisor station is assigned in ADMIN, it is considered logged in. A supervisor can dial a supervisor login code [576] followed by the ACD group that the supervisor is logging into and their 4-digit Agent ID number.

ACD Calls In Queue Threshold

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the CIQ THRESHOLD flexible button **(FLASH 60, Button #5)**. The following message displays:

```
AXXXX CIQ THRSHOLD          0-99
00
```

5. Enter a valid value on the dial pad that corresponds to 0–99 calls.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The ACD CIQ Threshold feature determines how many calls appear in queue before the LED flashes at 240 ipm flutter. Once the number of calls in queue falls below the CIQ threshold, the LED extinguishes. By default, this feature is disabled.

Conditions

- Any ACD station can have a button assigned to view the calls in queue of any ACD group.
- The CIQ flexible button (579+5XX) must be assigned on the telephone(s).

Wrap-Up Timer

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the WRAPUP TIMER flexible button **(FLASH 60, Button #6)**. The following message displays:

```
ACDXXXX  WRAPUP TIME      0-999
004
```

5. Enter a valid number on the dial pad which corresponds to 0-999 seconds (0=disable).
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

After completion of a ACD call (on-hook) the agent is not subjected to another ACD call for the duration of the Auto Wrap-Up Timer allowing the agent to finish call related work or access other facilities. This lets agents remove themselves from the group (e.g., DND, Call Forward) or originate another call. By default, the ACD Auto Wrap-Up Timer is set for 4 seconds and is variable from 000-999 seconds.

Primary Agents

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the PRIMARY AGENT flexible button **(FLASH 60, Button #7)**. The following message displays:

```
AXXXX  PRIMARY AGENTS
END
```

5. To **add** a station as a primary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 1 (XXXX = flexible station number).
   - Press the HOLD button.
6. To **delete** a station from being a primary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 0 (XXXX = flexible station number).
   - Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. To **view** primary agents in the ACD group, press button #7. (Each depression toggles through seven agents at a time.)

Description

The Primary Agent Assignment feature allows stations serving as primary agents to be entered into the ACD group. Agents can login to primary and secondary group. Primary agents ACD calls from their primary group are presented ahead of ACD calls in their secondary group.

Overflow Station Forward (Flash 06, button #6) allows/disallows excess calls to be forwarded to another station.

ACD Agent Recall (Flash 06, button #12) allows/disallows calls that have been transferred from an ACD Agent to recall the Agent.

Secondary Agents

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the SECONDARY AGENT flexible button **(FLASH 60, Button #8)**. The following message displays:

```
AXXXX  SECONDARY  AGENTS
END
```

5. To **add** a station as a secondary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 1 (XXXX = flexible station number).
   - Press HOLD.
6. To **delete** a station from being a secondary agent of the ACD group, use the dial pad as follows:
   - Enter XXXX 0 (XXXX = flexible station number).
   - Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. To **view** secondary agents in the ACD group, press button #7. (Each depression toggles through seven agents at a time.)

Description

The Secondary Agent Assignment feature allows stations serving as secondary agents to be entered into the ACD group. Agents can login to primary and secondary groups. Primary agents ACD calls from their primary group are presented ahead of ACD calls in their secondary group.

Guaranteed Recorded Announcement

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the GUARANTEED RAN flexible button **(FLASH 60, Button #9)**. The following message displays:

```
AXXXX  GUARANTEED RAN        1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A Guaranteed Message announcement may be assigned to the group to force callers to listen to the announcement prior to entering the queue or ringing an agent.

Callers listening to this type of announcement may dial digits (up to 14) using their dial pad. These digits can then be compared against the Local Number/Name Translation Table and routed to destinations based on table overrides. These digits (or a translation table entry's digit/name) then show on an agent's display as calling number identification digits.

This RAN function is only used for incoming CO calls to ACD Groups.

Primary Recorded Announcement

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the PRIMARY RAN flexible button **(FLASH 60, Button #10)**. The following message displays:

```
AXXXX  PRIMARY RAN           1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A Primary Message Announcement may be assigned to the group. This message is the first one presented to the caller, if the guaranteed message has not been enabled and the call has been transferred to the ACD Group.

This message plays after the Message Interval Timer expires and no agents are available.

Secondary Recorded Announcement

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the SECONDARY RAN flexible button **(FLASH 60, Button #11)**. The following message displays:

```
AXXXX  SECONDARY RAN          1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A secondary recorded announcement (RAN) may be assigned to the group. This announcement can be used for follow-up information after the primary messages. It plays after the Message Interval Timer setting expires.

Transferred Recorded Announcement

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the TRANSFERRED RAN flexible button **(FLASH 60, Button #12)**. The following message displays:

```
AXXXX  XFER RAN               1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Transferred Recorded Announcement (RAN) is for CO callers who are transferred to an ACD group. This forces callers transferred to an ACD Group to listen to the announcement prior to entering the queue or ringing an agent.

ACD Overflow Timer

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD Group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the OVERFLOW TIMER flexible button **(FLASH 60, Button #13)**. The following message displays:

```
AXXXX  OVERFLOW          000-600
060
```

5. Enter a valid number on the dial pad which corresponds to 000–600 seconds.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The ACD Overflow Timer determines the total length of time a caller remains in queue for a particular ACD group. When timer expires, caller is routed to the designated overflow station.

The timer starts when an incoming call is answered and presented to the first recorded announcement. Transferred CO callers overflow at the expiration of the Overflow Timer.

By default, the ACD Overflow Timer is set for 60 seconds and is variable from 000–600 seconds.

Call Factor

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the ACD group number (550-565) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the CALL FACTOR flexible button **(FLASH 60, Button #14)**. The following displays:

```
AXXXX  CALL FACTOR          0-999
XXX
```

5. Enter a valid number (0-999 minutes) for desired call factor time. (0 disables function.)
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Call Factor feature is used exclusively with the digital voice mail to provide the average call duration to the caller. This feature can be activated from administration or the ACD supervisor can use a flexible button. To use a flexible button, dial the ACD Call Factor feature code [580] + the ACD Group number (550-565) + [FFF], (where FFF = Call Factor - the average call duration).

The following formula is used to calculate the average call duration:

(Place in Queue) (Call Factor)

Number of Agents Logged into Group

ACD Timers

Programming Steps

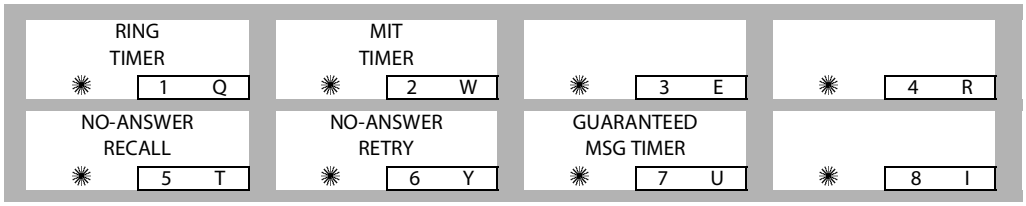
Press **FLASH** and dial **[61]**. The following message displays:

```
ACD TIMERS
ENTER BUTTON NUMBER
```

Description

Six timers for ACD operation are programmable on a system-wide basis. The ACD timers include: A Ring Timer, Message Interval Timer, an Overflow Timer (Flash 60, Button #13), a No Answer Recall Timer, a No Answer Retry Timer, and a Guaranteed Message Timer. Each timer is described in the following section.

The buttons on the digital telephone are defined as shown when entering the ACD Timers programming area:



ACD Ring Timer

Programming Steps

1. Press the RING TIMER flexible button **(FLASH 61, Button #1)**. The following message displays:

```
RING                          000-300
060
```

2. Enter a valid number which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The ACD Ring Timer determines how long a call rings into a busy ACD group before being presented to the first recorded announcement. By default, the ACD Ring Timer is set for 60 seconds, and is variable from 000–300 seconds.

A RAN Table must be specified in ACD programming. If a RAN Table is NOT specified, incoming CO callers are not answered but continue to receive ringback.

ACD Message Interval Timer

Programming Steps

1. Press the MIT TIMER flexible button **(FLASH 61, Button #2)**. The following message displays:

```
MESSAGE INTERVAL          000-600
060
```

2. Enter a valid number on the dial pad which corresponds to 000-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

The ACD Ring and Message Interval timers only apply when RAN ports are specified. If RAN ports are not specified, incoming callers continue to receive a ringback tone.

Description

The ACD Message Interval Timer (MIT) determines the length of time a caller remains in queue (listening to MOH, if provided) between recorded announcements. By default, the ACD Message Interval Timer is set for 60 seconds and is variable from 000-600 seconds.

ACD No-Answer Recall Timer

Programming Steps

1. Press the NO-ANSWER RECALL TIMER flexible button **(FLASH 61, Button #5)**. The following message displays:

```
NO - ANS  RECALL          000-300
000
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

If a call routed to a station via ACD is not answered by the ACD Agent/Station before the No Answer Recall Timer expires, the call is returned to ACD Queue with the highest priority. In addition, the station that failed to answer the ringing ACD call is placed into an out-of-service (OOS) state. By default, the ACD No-Answer Timer is at 000 (disabled) and is variable from 000–300 seconds.

ACD No-Answer Retry Timer

Programming Steps

1. Press the NO-ANSWER RETRY TIMER flexible button **(FLASH 61, Button #6)**. The following message displays:

```
NO ANSWER RETRY          000-999
300
```

2. Enter a valid number on the dial pad which corresponds to 000-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

When the No-Answer Recall Timer expires, a station that failed to answer the ringing ACD call is placed into an out-of-service (OOS) state. The station that was taken out-of-service (OOS) is placed back in service if the agent presses the available flex button or dials the available flex code. The agent is placed back in service if the No-Answer Retry Timer expires.

If the agent does not answer their next ACD call, they are taken out-of-service. This cycle continues until the station answers calls, logs out, or goes unavailable.

By default, the ACD No-Answer Retry Timer is set for 300 seconds and is variable from 000–999 seconds.

Guaranteed Message Timer

Programming Steps

1. Press the GUARANTEED MESSAGE TIMER flexible button **(FLASH 61, Button #7)**. The following message displays:

```
GUARANTEED MSG           000-300
005
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Guaranteed Message Timer determines how long a call rings before being answered by Guaranteed Message RAN when the Guaranteed Message RAN feature is added to an ACD Group.

By default, the Guaranteed Message Timer is set for 5 seconds and is variable from 000-300 seconds.

ACD Announcement Tables

Programming Steps

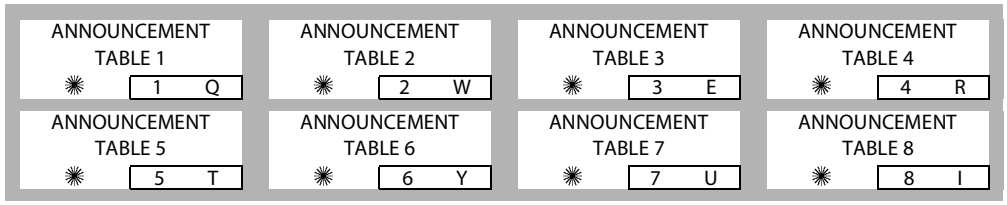
If Recorded Announcement (RAN) devices are installed to operate with ACD, these tables must be programmed.

1. Press **FLASH** and dial **[62]**. The following message displays:

```
ANNOUNCEMENT TABLE 1
TYPE #   IDX ####   TIME ###
```

   The top left button in the flexible button field is lit for programming ACD RAN Announcement Table #1.

2. To change to another ACD RAN Announcement Table, press **FLASH 62** and a flexible button 2-8 for Tables 2-8 respectively.



To program a table for a CO line port:

1. Press the TABLE X flexible button (1-8).
2. Dial [1] for CO Port Interface type.
3. Dial the desired CO line number, using a 4-digit format, e.g., for CO line 1, enter 0001.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a table for an SLT port:

1. Press the TABLE X flexible button (1-8).
2. Dial [2] for SLT Port Interface type.
3. Dial the desired SLT station number, using a 4-digit format, e.g., for SLT station number 120, enter 0120.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a table for a RAN Hunt Group port:

1. Press the TABLE X flexible button (1-8).
2. Dial [3] for RAN Hunt Group.
3. Dial [0458-0461] for RAN Hunt Group used.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a table for Digital Voice Mail:

1. Press the TABLE X flexible button (1-8).
2. Dial [4] for the Digital Voice Mail function type.
3. Dial the desired Voice Mail Group number, using a 4-digit format, e.g., for Voice Mail Group 440, enter 0440.
4. Dial a three-digit menu number [000-999].
5. Dial [0-9].

   0 = No DTMF Detection, No Messages Played. (Default)

   1 = DTMF Detection, No Message.

   2 = No DTMF, Place In Queue Message.

   3 = DTMF Detection, Place In Queue Message.

   4 = No DTMF, Hold Time Message.

   5 = DTMF Detection, Hold Time Message.

   6 = No DTMF, Both Messages.

   7 = DTMF Detection, Both Messages.

   8 = Not used at this time.

   9 = Not used at this time.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Clearing Entries

1. Press the [#] button.
2. Then press HOLD.

Description

Determines the type, index (port) number and message length for the eight available Recorded Announcements (RAN). There are eight RAN Tables that can be programmed.

The type can be either a CO line port, an SLT port, Digital Voice Mail, or a RAN Hunt Group port. The index number specifies which circuit for the type of interface. The message length is used to match the maximum length of the message to the device that is used.

Digital Voice Mail can be used as a RAN Announcer for ACD Groups. A menu is provided to play the announcement, as well as collect DTMF digits and route the caller to an alternate destination. In addition, a place in queue and an average hold time message can be played to the caller. The ability to detect DTMF, play average hold time, and place in queue are all programmable in this area.

When using the Digital Voice Mail as a RAN Announcer, the following options are available:

Table 6-2: Voice Mail RAN Announcer Options

Option	Action
0	Do NOT take a menu action on any DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message. (Default)
1	Take menu action only on DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message.
2	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue message only.
3	Take menu action on DTMF; play the Place in Queue message.
4	DO NOT take menu action on any DTFM dialed by user; play the Hold Time Message only.
5	Take menu action on DTMF; play Hold Time message.
6	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue and Hold Time message. (No Message Duration for type [4] entries is required.)
7	Take menu action on DTMF; play the Place in Queue and Hold Time message.
8-9	Not used at this time

DVM software version must be 2.90B or greater to have RAN functionality.
No Message Duration for type [4] entries is required.
A RAN table must be programmed for Overflow to operate.

PC / ACD Interface Trace

Programming Steps

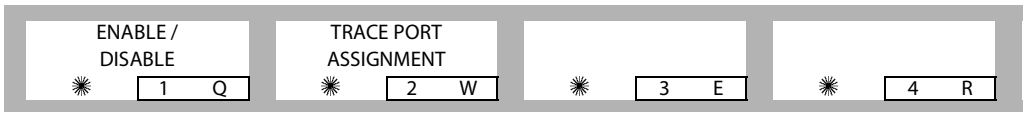
Press FLASH and dial [63]. The following message displays:

```
ACD _ EVT _ TRACE  I/O  BAUD
          NO        1   9600
```

Description

The PC/ACD Interface Trace feature is available with optional software. The PC/ACD Interface Trace feature provides an event trace output which is compatible with Discovery ACD Reporting package

The buttons on the digital telephone are defined as shown when entering the PC/ACD Event Trace feature programming area:



Enable / Disable

Programming Steps

1. Press the DISABLE/ENABLE flexible button **(FLASH 63, Button #1)**. The following message displays:

```
ACD _ EVT _ TRACE  I/O  BAUD
          YES       1   9600
```

2. Press the ENABLE/DISABLE flexible button.
   LED On = YES (Enabled)
   LED Off = NO (Disabled)
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The PC/ACD Interface Trace provides a series of events trace output which is compatible with the Discovery ACD Reporting package. By default, the PC/ACD Event Trace is disabled (NO).

Trace Port Assignment

Programming Steps

1. Press the TRACE PORT ASSIGNMENT flexible button **(FLASH 63, Button #2)** to determine which port to use for the PC/ACD Interface Trace.
2. Enter a valid number for the PC/ACD Event Trace Port number:

   [1] = Port #1 (MPB On-Board RS-232-C)

   [2] = Port #2 (On-Board Modem)

   [3] = Port #3 Serial Interface Unit (SIU2)

   [4] = Port #4 Serial Interface Unit (SIU2)

   The LCD displays the current baud rate based on which Port number is assigned to the ACD SMDR Port number (default is Port #1).

```
ACD _ EVT _ TRACE  I/O  BAUD
          NO        1   9600
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

By default, the trace port assignment is set to 1.

Baud Rate Display

Programming Steps

The PC/ACD Port Baud Rate is programmed using **Flash 15** baud rate assignments. The LCD displays the current baud rate based on which Port number is assigned to the ACD SMDR Port number. The following message displays:

```
PORT      BAUD
  1       9600
```

Description

The *infinite DVX^{Plus}II/III/IV* can provide PC/ACD Reporting output to the standard RS232C I/O ports on the MPB or the optional SIU2 module connector(s. The baud rate is displayed as 150, 300, 600, 1200, 2400, 4800, 9600, or 19.2K baud. By default, the PC/ACD baud rate is set to 9600.

7 Uniform Call Distribution (UCD)

This chapter provides the functional steps necessary to use the UCD features with the *infinite DVX^{Plus} II/III/IV* System. To implement the call coverage desired, you must first enter the Programming Mode.

UCD Group Programming

Programming Steps

1. Press **FLASH** and dial **[60]**. The following message displays:

```
UCD ATTRIBUTES
SELECT A GROUP
```

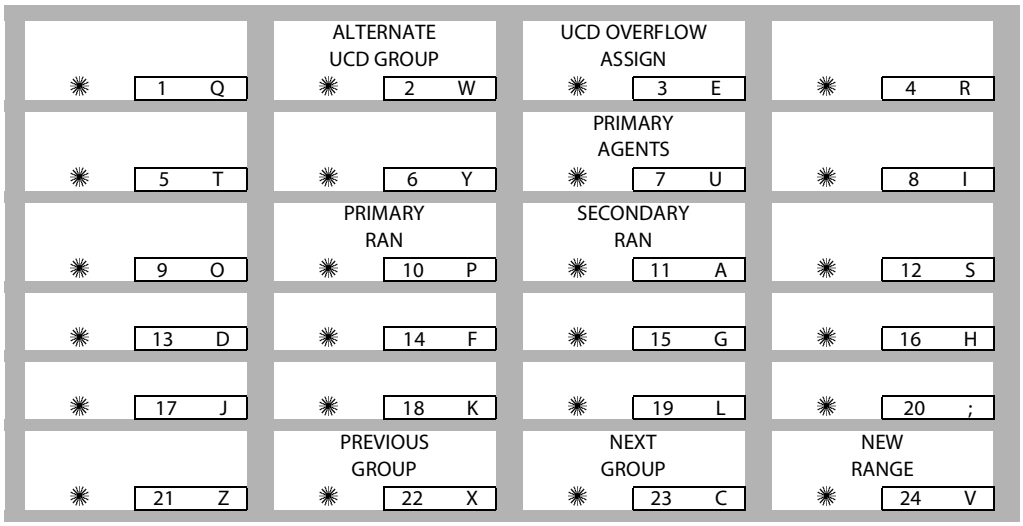
2. Enter the group number (550-557) on the dial pad.
3. Press HOLD.

Description

There can be eight UCD Groups of no more than eight stations each. The UCD Groups use a pilot hunting technique. If the pilot number is dialed, the assigned stations in that UCD Group are searched for the station which has been in an idle condition for the longest time period.

Each UCD Group may have an assigned Alternate UCD Group, an Overflow Station, and up to eight stations as UCD members. The two system RAN ports (tables) may also be referenced on a per UCD Group basis. By default, UCD Group Tables are empty.

The buttons on the digital telephone are defined as shown when entering the UCD Group(s) programming area:



Alternate UCD Group Assignment

Programming Steps

To establish an Alternate UCD Group:

1. Press **FLASH** and dial **[60]**.
2. Enter the UCD Group number (550-557) on the dial pad.
3. Press HOLD. A confirmation tone sounds and the display updates.
4. Press the ALTERNATE GROUP flexible button **(FLASH 60, Button #2)**.

```
AXXXX ALTERNATE GROUP
####
```

5. Enter another UCD Group number to designate the Alternate UCD Group.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an Alternate UCD Group:

1. Press [#].
2. Then press the HOLD button.

Description

An Alternate UCD Group can be programmed so that if no station in a group is available, the alternate group is checked for an available station. This provides a way to chain or link UCD Groups together.

UCD Overflow Station Assignment

Programming Steps

To assign an UCD Overflow Station:

1. Press **FLASH** and dial **[60]**.
2. Enter the fixed or flexible group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the OVERFLOW STATION flexible button **(FLASH 60, Button #3)**.
5. Enter a valid flexible station number to designate the UCD Group's Overflow Station.

```
AXXXX  OVERFLOW STATION
####
```

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an UCD Overflow Station:

1. Press [#] three times.
2. Then press the HOLD button.

Description

When an Overflow Station is assigned, callers that remain in queue for a specified amount of time are routed to the assigned Overflow Station. The Overflow Station MAY NOT be one of the UCD Group stations. Only CO calls transferred to a UCD Group, overflow to the Overflow Station when RAN Tables are assigned.

UCD Primary Agent Assignments

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the fixed or flexible group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the PRIMARY AGENT flexible button **(FLASH 60, Button #7)**. The following message displays:

```
AXXXX  PRIMARY  AGENTS
END
```

5. To **add** a station as a primary agent of the UCD group, use the dial pad as follows:
   - Enter XXXX 1 (XXXX = flexible station number).
   - Press the HOLD button.
6. To **delete** a station from being a primary agent of the UCD group, use the dial pad as follows:
   - Enter XXXX 0 (XXXX = flexible station number).
   - Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. To **view** primary agents in the UCD group, press button #7. (Each depression toggles through seven agents at a time.)

Description

The Primary Agent Assignment feature allows the stations serving as primary agents to be entered into the UCD group. Up to eight UCD Agents can be entered into a Group.

UCD Primary Recorded Announcement

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the UCD Group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the PRIMARY RAN flexible button **(FLASH 60, Button #10)**.

```
AXXXX  PRIMARY  RAN          1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A Primary Recorded Announcement (RAN) may be assigned to the group. This message is the first one presented to the caller.

Secondary Recorded Announcement

Programming Steps

1. Press **FLASH** and dial **[60]**.
2. Enter the UCD Group number (550-557) on the dial pad.
3. Press HOLD.
4. Press the SECONDARY RAN flexible button **(FLASH 60, Button #11)**.

```
AXXXX  SECONDARY RAN        1-8
#
```

5. Enter a valid number (1-8) for the desired RAN Announcement Table or a (#) to remove the entry.
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A Secondary Recorded Announcement (RAN) may be assigned to the group. This announcement can be used for follow-up information after the Primary message. This announcement plays after the Message Interval Timer setting expires.

UCD Timers

Programming Steps

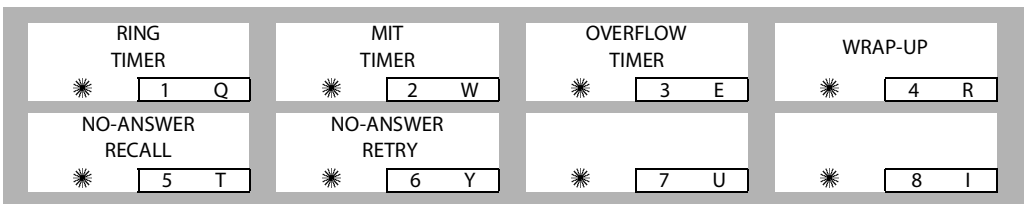
Press **FLASH** and dial **[61]**. The following message displays:

```
UCD TIMERS
ENTER BUTTON NUMBER
```

Description

Six timers for UCD operation are programmable on a system-wide basis. The UCD timers include: a Ring Timer, Message Interval Timer, an Overflow Timer, an Auto Wrap-Up Timer, a No/Answer Recall Timer, and a No/Answer Retry Timer. Each timer is described in the following section

The buttons on the digital telephone are defined as shown when entering the UCD Timers programming area:



UCD Ring Timer

Programming Steps

1. Press the RING TIMER flexible button **(FLASH 61, Button #1)**. The following message displays:

```
RING                    000-300
060
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The UCD Ring Timer determines how long a call rings into a busy UCD group before being presented to the first recorded announcement. By default, the UCD Ring Timer is set for 60 seconds, and is variable from 000–300 seconds.

A RAN Table must be specified in UCD programming. If a RAN Table is NOT specified, incoming CO callers are not answered but continue to receive ringback.

UCD Message Interval Timer

Programming Steps

1. Press the MIT TIMER flexible button **(FLASH 61, Button #2)**. The following message displays:

```
MESSAGE INTERVAL        000-600
060
```

2. Enter a valid number on the dial pad which corresponds to 000-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

The UCD Ring and Message Interval Timers only apply when RAN ports are specified. If RAN ports are not specified, incoming callers continue to receive a ringback tone.

Description

The UCD Message Interval Timer (MIT) determines the length of time a caller remains in queue (listening to MOH, if provided) between recorded announcements. By default, the UCD Message Interval Timer is set for 60 seconds and is variable from 000 to 600 seconds.

UCD Overflow Timer

Programming Steps

1. Press the OVERFLOW TIMER flexible button **(FLASH 61, Button #3)**. The following message displays:

```
OVERFLOW                    000-600
060
```

2. Enter a valid number on the dial pad which corresponds to 000-600 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The UCD Overflow Timer determines the total length of time a caller remains in queue for a particular UCD group. When the timer expires, the caller is routed to the designated overflow station.

The timer starts when an incoming call is answered and presented to the first recorded announcement. Transferred CO callers overflow at the expiration of the Overflow Timer. By default, the UCD Overflow Timer is set for 60 seconds and is variable from 000–600 seconds.

Wrap-Up Timer

Programming Steps

1. Press the WRAP-UP TIMER flexible button **(FLASH 61, Button #4)**. The following message displays:

```
AXXXX  WRAP-UP  TIME      000-999
004
```

2. Enter a valid number on the dial pad which corresponds to 000-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

After completion of a UCD call (on-hook) the agent is not subjected to another UCD call for the duration of the Wrap-up Timer (regardless of the number of calls in queue), allowing the agent to finish call related work or to access other facilities. This allows agents to remove themselves from the group (i.e., DND, Unavailable, Call Forward) or originate another call. The Wrap-up Timer is programmed as part of the UCD database (system-wide). By default, the Wrap-up Timer is set for 4 seconds and is variable from 000 to 999 seconds.

UCD No-Answer Recall Timer

Programming Steps

1. Press the NO-ANSWER RECALL TIMER flexible button **(FLASH 61, Button #5)**. The following message displays:

```
NO - ANS  RECALL          000-300
000
```

2. Enter a valid number on the dial pad which corresponds to 000-300 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

If a call routed to a station via UCD is not answered by the UCD Agent/Station before the No-Answer Recall Timer expires, the call is returned to UCD Queue with the highest priority. In addition, the station that failed to answer the ringing UCD call is placed into an out-of-service (OOS) state. By default, the UCD No-Answer Timer is at 000 (disabled) and is variable from 000–300 seconds.

UCD No-Answer Retry Timer

Programming Steps

1. Press the NO-ANSWER RETRY TIMER flexible button **(FLASH 61, Button #6)**. The following message displays:

```
NO - ANSWER  RETRY        000-999
300
```

2. Enter a valid number on the dial pad which corresponds to 000-999 seconds.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

When the No-Answer Recall Timer expires, a station that failed to answer the ringing UCD call is placed into an Out-Of-Service (OOS) state.

The **station** that was taken out-of-service is placed back in service if the agent hits their available flex button or dials the available flex code.

The **agent** is placed back in service if the No-Answer Retry Timer expires. If the agent does not answer their next UCD call, they are taken out-of-service again.

This cycle continues until the station: answers calls, logs out, or goes unavailable. By default, the UCD No-Answer Retry Timer is set for 300 seconds and is variable from 000–999 seconds.

UCD Announcement Tables

Programming Steps

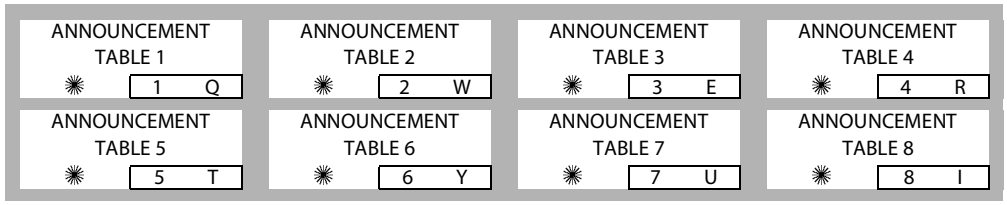
If Recorded Announcement (RAN) devices are installed to operate with UCD, these tables must be programmed.

1. Press **FLASH** and dial **[62]**. The following message displays:

```
ANNOUNCEMENT TABLE 1
TYPE #   IDX ####   TIME ###
```

   The top left button in the flexible button field is lit for programming UCD RAN Announcement Table #1.

2. To change to another UCD RAN Announcement Table, press **FLASH 62** and a flexible button 2-8 for Tables 2-8 respectively.



To program a table for a CO line port:

1. Press the TABLE X flexible button (1-8).
2. Dial [1] for CO Port Interface type.
3. Dial the desired CO line number, using a 4-digit format, e.g., for CO line number 1, enter 0001.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a table for an SLT port:

1. Press the TABLE X flexible button (1-8).
2. Dial [2] for SLT Port Interface type.
3. Dial the desired SLT station number, using a 4-digit format, e.g., for SLT station number 120, enter 0120.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a table for a RAN Hunt Group port:

1. Press the TABLE X flexible button (1-8).
2. Dial [3] for RAN Hunt Group type.
3. Dial [0458-0461] for RAN Hunt Group used.
4. Enter message duration (000-300 seconds).
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To program a table for Digital Voice Mail:

1. Press the TABLE X flexible button (1-8).
2. Dial [4] for the Digital Voice Mail function type.
3. Dial the desired Voice Mail Group number, using a 4-digit format, e.g., for Voice Mail Group 440, enter 0440.
4. Dial a three-digit menu number [000-999].
5. Dial [0-9].

   0 = No DTMF Detection, No Messages Played (Default)

   1 = DTMF Detection, No Message

   2 = No DTMF, Place In Queue Message

   3 = DTMF Detection, Place In Queue Message

   4 = No DTMF, Hold Time Message

   5 = DTMF Detection, Hold Time Message

   6 = No DTMF, Both Messages

   7 = DTMF Detection, Both Messages

   8 = Not used at this time

   9 = Not used at this time
6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Clearing Entries

1. Press the [#] button.
2. Then press HOLD.

Description

Determines the type, index (port) number and message length for the eight available Recorded Announcements (RAN). There are eight RAN Tables that can be programmed. Table 1 can be the answer port for unanswered incoming calls to a UCD group.

The type can be either a CO line port, an SLT port, Digital Voice Mail, or a RAN Hunt Group port. The index number specifies which circuit for the type of interface. The message length is used to match the maximum length of the message to the device that is used.

Digital Voice Mail can be used as a RAN Announcer for UCD Groups. A menu is provided to play the announcement, as well as collect DTMF digits and route the caller to an alternate destination. In addition, a place in queue and an average hold time message can be played to the caller. The ability to detect DTMF, play average hold time, and place in queue are all programmable in this area.

When using the Digital Voice Mail as a RAN Announcer, the following options are available:

Table 7-1: Voice Mail RAN Announcer Options

Option	Action
0	Do NOT take a menu action on any DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message. (Default)
1	Take menu action only on DTMF dialed by the caller; DO NOT play Place in Queue or Hold Time message.
2	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue message only.
3	Take menu action on DTMF; play the Place in Queue message.
4	DO NOT take menu action on any DTFM dialed by user; play the Hold Time Message only.
5	Take menu action on DTMF; play Hold Time message.
6	DO NOT take menu action on any DTFM dialed by user; play the Place in Queue and Hold Time message. (No Message Duration for type [4] entries is required.)
7	Take menu action on DTMF; play the Place in Queue and Hold Time message.
8-9	Not used at this time

DVM software version must be 2.90 or greater to have RAN functionality.

8 Voice Mail Groups (VM)

This chapter provides the functional steps necessary to use the Voice Mail features with the *infinite DVX^{Plus} II/III/IV* System. To implement the voice mail options desired, you must first enter the Programming Mode.

Voice Mail Programming

Programming Steps

1. Press FLASH and dial [65]. The following message displays.

```
VXXXX
ENTER BUTTON NUMBER
```

[XXXX] = 3- or 4-digit flexible Voice Mail Group number

The top left button in the flexible button field is lit for programming Voice Mail Group 440.

2. To change Voice Mail groups or enter further voice mail groups, press the appropriate flexible button, 1-8 (440–447) and perform the following procedures.

If installing an infinite Voice Mail system, skip directly to Button 12 and enter voice mail ports.

Certain programming is required in the Voice Mail system connected to the DVX^{Plus} II/III/IV System for proper operation.

Tone Mode Calling option (6#) must be programmed as leading digits in transfer sequence(s) of Voice Mail system to force tone ringing to key telephones in the hands-free mode.

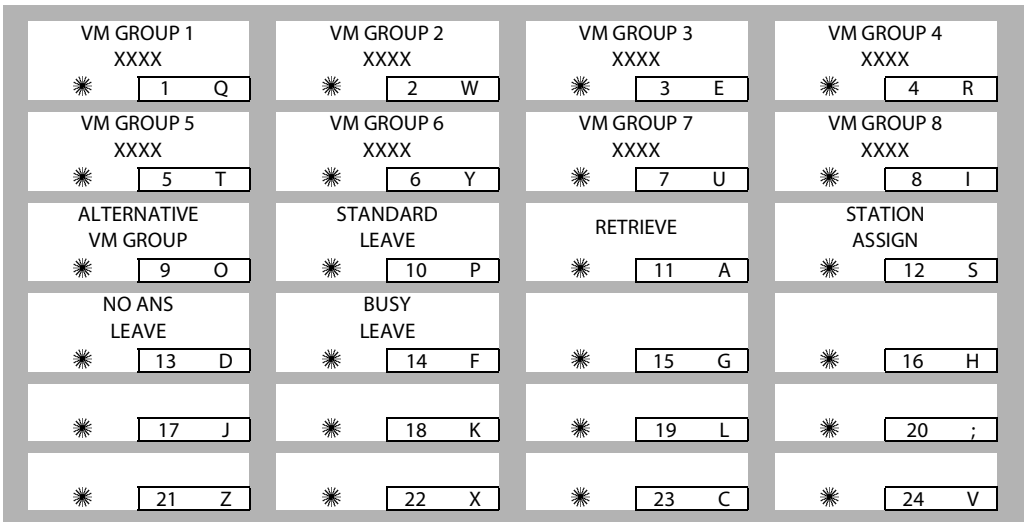
Description

Up to 8 Voice Mail groups can be configured in the *infinite DVX^{Plus}II/III/IV* System. Each group can contain up to 24 Voice Mail designated ports, each of which interfaces with a port on an SLT card (or DIDB if using a Digital Voice Mail).

An externally provided Voice Mail system or Auto Attendant must be connected to the *DVX^{Plus}II/III/IV* System for Voice Mail or Auto Attendant operation. Voice Mail automatically handles unanswered calls. Station user can then retrieve messages left at their stations.

Auto Attendants can handle incoming calls and route callers to station users without intervention from the systems Attendant. Direct incoming ring to Voice Mail/Auto Attendant groups can be done directly through CO Line Ringing Assignments. By default, all Voice Mail stations are assigned to Voice Mail Group 1.

The buttons on the digital telephone are defined as shown when entering the Voice Mail programming area:



Alternate Voice Mail Group

Programming Steps

1. Press the ALTERNATE VM GROUP flexible button **(FLASH 65, Button #9)**.
2. Enter a valid flexible Voice Mail Group number.

```
VXXXX ALTERNATE VM GROUP
####
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete an alternate voice mail group assignment:

1. Press [#] three times.
2. Then press the HOLD button.

Description

An Alternate Voice Mail Group may be programmed so that if all voice mail ports are in use, the call can be routed to an alternate group. This is useful when more than 24 ports are required for voice mail traffic.

Standard Leave Mail Index Entry

Programming Steps

1. Press the STANDARD LEAVE flexible button **(FLASH 65, Button #10)**.
2. Enter a valid Standard Leave Mail Index number (0-7) on the dial pad.

```
VXXXX STANDARD LEAVE          0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a leave mail index entry:

1. Press [#] in the desired location on the keypad.
2. Then press the HOLD button.

Description

The Standard Leave Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a caller who is forwarded into voice mail, to the called station's mailbox. By default, Voice Mail Group 1 Standard Leave Mail Index is set to zero (0).

Retrieve Mail Index Entry

Programming Steps

1. Press the RETRIEVE flexible button **(FLASH 65, Button #11)**.
2. Enter a valid outpulsing table number (0-7) on the dial pad.

```
VXXXX RETRIEVE MAIL           0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a retrieve mail index entry:

1. Press the pound key [#].
2. Then press HOLD.

Description

The Retrieve Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a station user to their mailbox. By default, Voice Mail Group 1 Retrieve Mail Index is set to zero (0).

Station Assignments

Programming Steps

1. Press the STATION ASSIGN flexible button **(FLASH 65, Button #12)**.
2. Enter **SSS 1** to add a station (SSS = 3- or 4-digit flexible VM station number),

   -or-

   Enter **SSS 0** to delete a station (SSS = 3- or 4-digit flexible VM station number).

```
VXXXX  STA   ####,  ####,  ####,
####,  ####,  ####,  ####,  ####
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Up to 24 extension numbers may be programmed into a voice mail group. A flexible button may be programmed with a fixed or flexible voice mail group pilot number (440-447 = fixed). This button then acts as a DSS for that voice mail group when pressed and also serves as the message waiting indication for that VM group.

No Answer Leave Mail Index Entry

Programming Steps

1. Press the NO ANS LEAVE flexible button **(FLASH 65, Button #13)**.
2. Enter a valid No Answer Leave Mail Index number (0-7) on the dial pad:

```
VXXXX NO ANS LEAVE            0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a no answer leave mail index entry:

1. Press [#].
2. Then press HOLD.

Description

The No Answer Leave Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a caller who is forwarded into voice mail in a No Answer condition, to the called station's mailbox. By default, the Voice Mail Group 1 No Answer Leave Mail Index is set to zero (0).

Busy Leave Mail Index Entry

Programming Steps

1. Press the BUSY LEAVE flexible button **(FLASH 65, Button #14)**.
2. Enter a valid Busy Leave Mail Index number (0-7) on the dial pad:

```
VXXXX BUSY LEAVE              0-7
#
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

To delete a busy leave mail index entry:

1. Press [#], then press HOLD.

Description

The Busy Leave Mail Index specifies the digits to be outpulsed when the in-band digits are sent to a Voice Mail system. These digits are required to connect a caller who is forwarded into voice mail in a Busy condition, to the called station's mailbox. By default, the Voice Mail Group 1 Busy Leave Mail Index is set to zero (0).

Voice Mail Outpulsing Table

Voice Mail In-Band Signaling

Programming Steps

1. Press FLASH and dial [66]. The following message displays:

```
VOICE     PRE   XXXXXXXXXXXXE
MAIL Y    SUF   XXXXXXXXXXXXE
```

Y = Table Index (0–7)

X = Entered Digits (0–9, #, ✳, Pauses)

2. The TABLE 00 flexible button (Button #1) led is lit. To change tables, press the appropriate flexible button (Buttons 2–8) and perform the following procedures.
3. Dial one of the following, when required:

   [0] = If a prefix is required

   [1] = If a suffix is required

   [#] = If entry is to be deleted
4. Enter up to 12 digits, including [✳] and [#], TRANS button = pause.
5. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

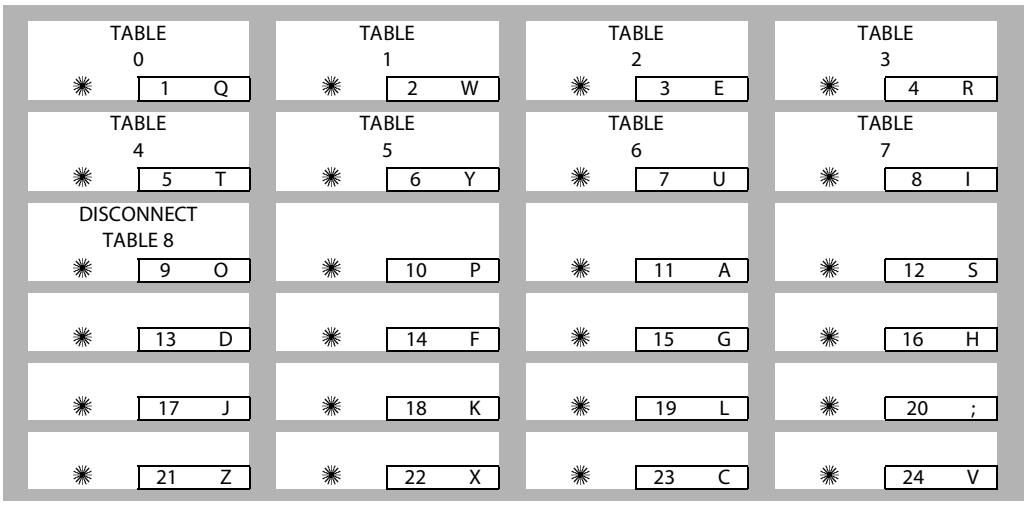
Clearing Entries in a Table

Press the pound key once [#], followed by HOLD.

Description

Entries in one of the eight VM Outpulsing Tables determine In-Band signaling required for:

- Retrieving messages (allows stations to pick up mail).
- Leaving messages (allows stations to leave messages in voice mail).



Suggested Uses:

- Build a table (0 for example) for any additional digits other than the station extension number (e.g., Voice Mail Box number) needed for a caller to leave a message in a station's mailbox (Leave).
- Build another table (1 for example) for any additional digits needed for a mailbox holder to retrieve a message (Retrieve). By Default:

Table 0	Prefix = P7 (Pause+7)	Suffix = None
Table 1	Prefix = P7 (Pause+7)	Suffix = ✳
Table 7	Prefix = P7 (Pause+7)	Suffix = 2

Entries are not required in the Outpulsing Table. However, a table must be referenced when setting up the Voice Mail groups.

Voice Mail Disconnect Table

Programming Steps

1. Press the DISCONNECT TABLE 8 flexible button **(FLASH 66, Button #9)**. This table number is used for the voice mail disconnect signal.
2. Enter up to 12 digits used for the disconnect signal, including [✳] and [#], TRANS button = pause.

```
VOICE  DIS  E
MAIL
```

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

A disconnect signal can be programmed into the *DVX*^{Plus}*II/III/IV* System to notify the VM system that a call has been abandoned. This is accomplished through in-band signaling. If a CO or Intercom disconnect signal is detected, the *DVX*^{Plus}*II/III/IV* System sends a series of DTMF digits programmed in the voice mail disconnect table to the voice mail port. This can be any digit stream up to 12 digits including [✳] and [#].

This table serves all eight voice mail groups. When no digits are programmed in the disconnect table, silence is provided to the voice mail port followed by busy tone to aid the voice mail system to recognize that the caller has abandoned the call.

The *DVX*^{Plus}*II/III/IV* System provides Loop Supervision monitoring while a CO call is connected to a port designated as voice mail.

Loop Supervision must be enabled on the CO lines (in CO Line programming) for the VM Disconnect feature to operate.

By default, there are no entries in the Disconnect Table (Table #8).

Voice Mail In-Band Features

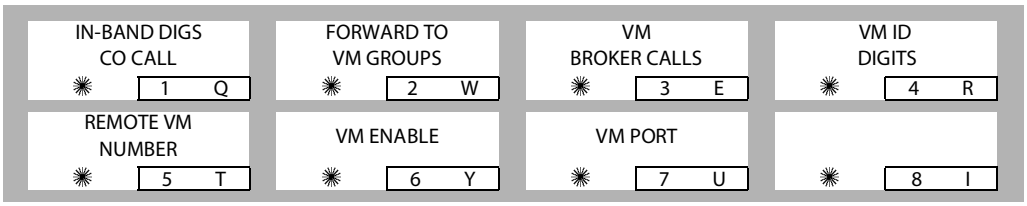
Programming Steps

Press **FLASH** and dial **[67]**. The following message displays:

```
VM FEATURES
ENTER BUTTON NUMBER
```

Description

Entries into the Voice Mail In-Band Features determines the in-band signaling required for ICID Incoming ID Digits (forwards incoming CO callers directly to a Station's Voice Mail Box), and Forward to VM Groups (lets voice mail calls, upon reaching a forwarded to VM station, forward back into the voice mail system).



Voice Mail In-Band Digits

Programming Steps

1. Press the IN-BAND DIGS CO CALL flexible button **(FLASH 67, Button #1)**. The following message displays.

```
IN-BAND DIGS CO CALL          0-1
ENABLED
```

2. Enter a 0 or 1 to Enable/Disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Voice Mail In-Band Digits feature enables and disables station in-band signaling. Incoming CO callers can be Station Call Forwarded into voice mail only when the ringing CO line is programmed to ring at one station. CO lines programmed to ring at an Attendant station, call forward into the voice mail system (if programmed to ring only at one Attendant station). Callers are presented to the main greeting (not the Attendant stations' mail box) even when ID digits are enabled. By default, ID digits for incoming CO calls is enabled.

Voice Mail Transfer / Forward

Programming Steps

1. Press the FORWARD TO VM GROUPS flexible button **(FLASH 67, Button #2)**. The following message displays:

```
FORWARD TO VM GROUPS          0-1
ENABLED
```

2. Enter a 0 or 1 to Enable/Disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Voice Mail Transfer/Forward feature forwards voice mail calls, upon reaching a forwarded to VM station, back into the voice mail unit. It is useful when VM ports are being used as both Auto Attendant and VM ports. This feature can be enabled/disabled for all VM groups. By default, the VM Transfer/Forward feature is enabled.

Voice Mail Broker

Programming Steps

1. Press the VM BROKER CALLS flexible button **(FLASH 67, Button #3)**. The following message displays:

```
VM BROKER CALLS                0-1
ENABLED
```

2. Enter a 0 or 1 to Enable/Disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

The Voice Mail Broker Calls feature modifies the operation of voice mail ports when disabled. Broker operation is unavailable when using supervised transfers to stations. When enabled, the current broker mode operation during supervised transfers remains in effect. This means the call to the station remains as the second party in a broker mode. If disabled, the VM port disconnects the call to a station and returns to the original party. By default, the VM Broker feature is enabled.

Voice Mail ID Digit Length

Programming Steps

1. Press the VM ID DIGITS flexible button **(FLASH 67, Button #4)**. The following message displays:

```
VM ID DIGITS                   2-4
3
```

2. Enter a valid number (2, 3, or 4) that corresponds to the number of digits to be dialed.
3. Press HOLD to save the entry. A confirmation tone sounds.

Description

The Voice Mail ID Digit Length feature modifies the station and CO voice mail identification fields such that the maximum length of these fields is four digits.

Remote Voice Mail Programming

Description

This feature is used to specify the pilot hunt number of the centralized voice mail system in a networking system. Refer to *"Remote Voice Mail Programming" on page A-26*.

Voice Mail Modem Access

Programming Steps

To enable or disable the VM port:

1. Press the VM PORT flexible button **(FLASH 67, Button #6)**. The following message displays:

```
VM PORT                    0-1
DISABLED
```

2. Enter a 0 or 1 on the dial pad to enable/disable this feature.

   [0] = Disabled

   [1] = Enabled

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT . . . VM Port is disabled.

To indicate which port is used to connect the voice mail system and the telephone system:

1. Press the VM PORT NUMBER flexible button **(FLASH 67, Button #7)**. The following message displays:

```
VM PORT NUMBER:            3-5
3
```

2. Enter a valid number (3-5) to indicate the port to be used.
3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

DEFAULT . . . VM Port Number is Port 3.

Description

You can program Vodavi voice mail systems (other than MiniVoice or PathFinder) using the telephone system modem.

9 Exception Tables

This chapter provides the functional steps necessary to use the Exception Tables with the *infinite DVX^{Plus} II/III/IV* System. To implement the toll restriction options desired, you must first enter the Programming Mode.

Exception Tables Programming

The *infinite DVX*^{Plus}*II/III/IV* Systems offer a flexible means of applying toll restriction to stations or individuals. Dialing privileges (or toll restriction) is determined through assignment of station and CO line Class Of Service (COS).

Several types of restriction can be derived simply by programming COS assignments and CO line access to stations. This may, in some cases, be all that is necessary. However, when a more complex or specific type of restriction is desired the system offers two Allow and two Deny tables along with four special tables.

These tables can be programmed in a variety of ways to handle applications that are straight forward or applications that require a more complex arrangement. The Allow and Deny tables are assigned to stations based on their station Class of Service (COS) assignment. The Station (COS) interacts with CO Line COS assignments to provide several different types of dialing privileges.

Table 9-1: Class of Service

STATION COS	CO LINE CLASS OF SERVICE				
	1	**2**	**3**	**4**	**5**
1	Unrestricted	Unrestricted	Unrestricted	Canned Restricted*	Unrestricted
2	Table A	Table A	Unrestricted	Canned Restricted*	Unrestricted
3	Table B	Unrestricted	Table B	Canned Restricted*	Unrestricted
4	Table A&B	Table A	Table B	Canned Restricted*	Unrestricted
5	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted
6	Intercom Only	Intercom Only	Intercom Only	Intercom Only	Intercom Only
7	Canned Restricted*	Canned Restricted*	Canned Restricted*	Canned Restricted*	Unrestricted

** Canned Restriction: No [0], [1], [#], [S] as first dialed digit, and 7-digit dialing limitation; plus 1-800, 1-888, 1-911, 1-611 are allowed, and 411, 976, and 555 numbers are denied. COS 7 allows all COS 5 and 10-digit local dialing.*

The Allow and Deny tables enable entries of either general or specific allow and deny codes such as allowing all [1-800] type calls, and/or denying all [1]+ or [0]+ calls.

The Allow and Deny tables allow a maximum of 8 digits to be entered as allow or deny digits. This enables entry of certain area codes or office codes that can be allowed or denied.

For example, the code [1-555-1212] may be entered in the Deny Table to deny local toll information calls. Each Allow Table contains 20 bins for entry of allow codes. Each Deny Table contains 10 bins for entry of deny codes.

Rules for Setting Up Allow/Deny Tables

Rule 1--- If both tables (Allow and Deny) have no entries, no restriction is applied.

Rule 2--- If entries are made in the Allow Table and only there, then only those numbers are allowed. All other dialing is denied.

Rule 3--- If entries are made in the Deny Table and only there, then only those numbers are denied. All other dialing is allowed.

Rule 4--- If there are entries in both Allow and Deny tables, the Allow Table is searched first, and if a match is found, it is allowed. If a match is not found, the Deny Table is searched; if a match is found, the call is denied. If the number does not match an entry in either table, it is allowed.

Table 9-2: Allow/Deny Table

Rules	Allow Table	Deny Table	Conditions and Results	
			Allow	**Deny**
Rule 1	No Entries	No Entries	All calls are allowed	
Rule 2	Entries	No Entries	If a match is found, the call is allowed.	
			If a match is not found, the call is denied.	
Rule 3	No Entries	Entries		If a match is found, the call is denied.
				If a match is not found, the call is allowed.
Rule 4	Entries	Entries	If a match is found, the call is allowed.	If a match is found, the call is denied.
			If a match is not found, the deny table is searched.	If a match is not found, the call is allowed.

A special Do Not Care character (D) may be entered to allow or deny any digit dialed in that digit sequence.

Special Reference Tables

The *DVX^{Plus}II/III/IV* System also offers four special tables that can be referenced from within the two Allow Tables.

- Three of the special tables can be assigned to specific area codes that require further toll restriction definition.
- The fourth Special Table is reserved for use as a home area code table (numbers within the same area code as the site where the system is installed). This provides expanded ability to apply toll restriction on numbers that are dialed within an area code.
- Each Special Table allows up to 800 entries (200–999). This offers the ability to allow every office code on an individual basis.

Related Items To Toll Restriction

CO/PBX Lines

When CO lines are marked as PBX lines the system first checks the PBX code table for a valid match. If the first digits dialed do not match the entries in the PBX code table the call is considered an attempt to call another PBX extension and no toll restriction is applied. If the first digits dialed are found in the PBX code table (FLASH 12), toll restriction starts with the next dialed digit.

Forced Account Codes

The system can be programmed to force the use of account codes on all restricted calls. When forced account codes are enabled an account code must be entered to place a call that is otherwise restricted through toll restriction. By entering an account code, the station class of service becomes unrestricted. When account codes are forced on a system wide basis selected users may be instructed on how to enter account codes from any station and be allowed to dial unrestricted from a station that may otherwise be restricted. Use of account codes in this manner, as a traveling class of service, is however, not controlled by the system. Any station user with knowledge of how to enter account codes to override a stations toll restriction can do so.

SLT DTMF Receivers

When Single Line Telephones are connected to the *DVX^{Plus}II/III/IV* System and toll restriction is enabled, the DTMF receivers located in the system monitors the call for a programmed time period. While the DTMF receiver is monitoring the digits being dialed by a single line telephone, it is considered busy and not available for monitoring another SLT attempting to dial. When all DTMF receivers are busy, an SLT attempting to go off-hook does not receive dial tone until a receiver is available.

The *DVX^{Plus}II/III/IV* System allows up to 5 DTMF receivers for monitoring SLT dialing. If a system has heavy SLT usage, then toll restriction may inhibit dialing by SLT stations.

Two (2) options are available to help alleviate this problem:

1. Shorten the SLT receiver timer [FLASH 01] [Button 12]. This frees up DTMF receivers faster, but may not provide the desired toll restriction for SLT stations.
2. Enable LCR and force LCR on SLT stations.

When the LCR database is set up, the 3-digit table allows entry of the number of digits to expect. When a SLT dials the appropriate number of digits, LCR releases the DTMF receiver and then be available for another SLT call.

LCR Versus Toll Restriction

LCR is not an alternative to toll restriction nor is toll restriction an alternate to LCR. They work best when programmed together. Toll restriction specifies station dialing privileges, and LCR provides call routing to appropriate lines. LCR can enhance toll restriction by providing Store and Forward operation to analyze digits being dialed before a trunk is seized. This prevents users from by-passing toll restriction by taking advantage of the time required for a central office line to provide dial tone. LCR is recommended when toll restriction is enabled.

Toll Restriction

Entering Toll Table

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[70]**. The following message displays:

```
EX  TABLES
ENTER  BUTTON  NUMBER
```

2. To program Allow/Deny tables, press the appropriate Table button and enter information as outlined in the following procedures.
3. To program Special Tables 1-3, it is necessary to associate an area code to the table. This is done by pressing the appropriate AREA CODE TABLE button and assign the area code.

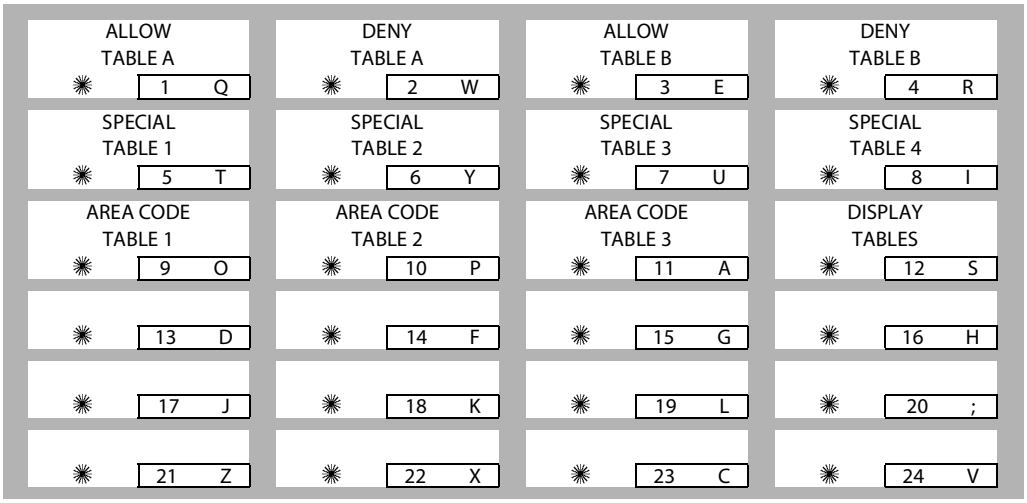
Special Table 4 is reserved for the home area code and does not require an area code entry.

4. To display entries in any of the tables, press the DISPLAY TABLES button **(FLASH 70, Button #12)**. Entries in the Allow/Deny tables display two at a time. Entries in the Special tables display six at a time in ascending order.

Description

All toll tables have been conveniently placed under one program code to allow entry of all toll restriction data.

The buttons on the digital terminal are defined as shown below when entering the Toll Restriction programming area:



When the system searches the Allow and Deny tables, the entries are checked starting with Bin 01 and proceeding sequentially through the table to the last bin. In addition the Allow Table is always searched before looking at the Deny Table. Therefore, the entry order is important. Entries that are specific (e.g., [1716]) are placed ahead of entries that are more general (usually include Do Not Care digits; e.g., [1 D 1]).

Once a match is found in the Allow Table that references a Special Table, the number dialed are checked for an allowed code in the Special Table. If a match is not found in the Special Table, the system continues to check for a match in the next Allow or Deny Table to check. The system does not return to the table that sent the call to the Special Table.

Allow Table

Programming Steps

1. Press the ALLOW TABLE A or ALLOW TABLE B flexible button **(FLASH 70, Button #1 or #3)**. The following message is shown on the display telephone:

```
ALLOW  TABLE  A
01E                          02E
```

   The first two bin locations display.

2. Enter a valid bin number (01–20) of the bin to be programmed.

   It is recommended that:

   - Bin 17 be reserved for an entry that references SPECIAL TABLE 1
   - Bin 18 be reserved for an entry that references SPECIAL TABLE 2
   - Bin 19 be reserved for an entry that references SPECIAL TABLE 3
   - Bin 20 be reserved for an entry that references the Home Area Code Table, SPECIAL TABLE 4.

3. Enter the Allow Code.

   [0–9], [✳], [#] = Corresponding allow digits (numbers)

   MUTE = Do Not Care digit (D)

   TRANS = Search Special Table (S)

4. Press the HOLD button to save the entry. A confirmation tone sounds and the display now updates.
5. When all entries for one table are complete, press the flexible button for the next table.

Erasing a Bin Number

1. Enter a valid bin number.
2. Press the HOLD button.

Description

Each Allow Table contains 20 bin numbers. Each bin number may be up to 8 digits, including Do Not Care digits and Search Special Table commands. Entries into the Allow Table represent exceptions to numbers or codes that are to be allowed only if they would otherwise be restricted by an entry in the Deny Table.

Example

If [1 555 1212] is allowed but [1+] numbers are denied, by an entry into the Deny Table, [1 555 1212] is entered into the Allow Table as an allowed number.

- Allow Table A is referenced and searched first (before Deny Table A) when Station COS is 2 and CO Line COS is either 1 or 2.
- Allow Table B is referenced and looked at first (before Deny Table B) when Station COS is 3 and CO Line COS is either 1 or 3.
- When Station COS is 4 and CO Line COS is 1 both allow tables are looked at first (Allow Table A first, then Allow Table B) then both deny tables (Deny Table A first, then Deny Table B).

  Do Not Care digits specify that the system should consider any digit dialed in that position as a match. Do Not Care digits should not be entered as the last digit in an entry, as this would be an unnecessary or meaningless command.

  Search Special Table commands must be entered in a specific manner and should always be the last entries in the Allow Table. It is recommended that the last four bins (17–20) in the Allow Table be reserved for referencing the four special tables with the reference to the home area code (Special Table 4) always being located in bin number 20. Search Special table commands can only be entered into the allow tables.

Remember to enable 911 for all Classes of Service

Rules for Entries that Reference Special Tables

For entries referencing the first three special tables a specific area code must be identified (one for each table needed). Then make note as to how the numbers are dialed when dialing numbers to this area code (i.e., with a leading digit [1] or no leading digit [1]).

The entry into the Allow Table would be entered as follows:

- Leading Digit [1]: Enter [BB] [1] [XXX] [DDD] [S] or,
- Non-Leading [1]: Enter [BB] [XXX] [DDD] [S]

  BB = Bin Number (Bins 17-19)
  XXX = Area Code (must match AREA-X entry)
  DDD = Do Not Care digit (three entries, DND button)
  [S] = Search Special Table Command (TRANS button)

For an entry that references the Home Area Code table (Special Table 4) the entry may also be entered to expect or not expect a leading digit [1]. In fact, in some cases it may be desirable to enter both of the following entries:

- Leading Digit [1] -- Enter [BB] [1] [DDD] {S}

  and/or,

- Non-Leading [1] -- Enter [BB] [DDD] {S}

  BB = Bin number (Bin 20)
  DDD = Do Not Care digit (three entries, MUTE button)
  {S} = Search Special Table Command (TRANS button)

If both leading digit [1] and non-leading digit [1] entries are made to reference the same table, it is necessary to place the leading digit [1] entry ahead of the non-leading digit [1] entry in the Allow Table.

Deny Table

Programming Steps

1. Press the DENY TABLE A or DENY TABLE B flexible button **(FLASH 70, Button #2 or #4)**. The following message displays:

```
DENY  TABLE  A
01E                          02E
```

2. When the first two bin locations are displayed, enter the 2-digit bin number (01–10) of the bin to be programmed.
3. Enter the deny code:
   [0–9], [*], [#] = Corresponding deny digits numbers
   MUTE = Do Not Care digit
4. Press the HOLD button to save the entry. A confirmation tone sounds and the display now updates.
5. When all entries for one table are complete, press the flexible button for the next table.

Erasing a Bin Number

1. Enter a valid bin number.
2. Press the HOLD button.

Description

Each Deny Table contains ten bin numbers. Each bin number may be up to eight-digits including {Do Not Care} digits. Entries in the Deny Table represent numbers or codes that are to be denied or restricted. Common entries would be [1] for restricting all [1+] type of calls. Exceptions to this restriction would be entered into the Allow Table.

- Deny Table A is referenced and searched only after the Allow Table A is checked when Station COS is 2 and CO Line COS is either 1 or 2.
- Deny Table B is referenced and searched only after the Allow Table B is checked when Station COS is 3 and CO Line COS is either 1 or 3.
- When Station COS is 4 and CO Line COS is 1, both allow tables are looked at first (Allow Table A first, then Allow Table B) then both deny tables (Deny Table A first, then Deny Table B).

  - Do Not Care digits specify that the system should consider any digit dialed in that position as a match. Do Not Care digits should not be entered as the last digit in an entry.

  - Search Special Table commands cannot be entered into the Deny tables.

Special Table

Programming Steps

To program a Special Table, it is first necessary to assign an area code to the table (except for the home area code).

1. Press the appropriate AREA CODE TABLE (#1 to #3) flexible button **(FLASH 70, Buttons #9 to #11)**. The following message displays:

```
SPECIAL  TABLE  1              AC
```

2. Enter a valid area code.
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Entering Office Codes in a Special Table

1. Press the SPECIAL TABLE (#1 to #4) flexible button **(FLASH 70, Buttons #5 to #8)** that corresponds to the area code programmed above. The following message displays:

```
SPECIAL  TABLE 1          AC  XXX
```

XXX = Area Code

2. Enter the office codes that are to be allowed or removed as follows:

   XXX [1] = Allow Code

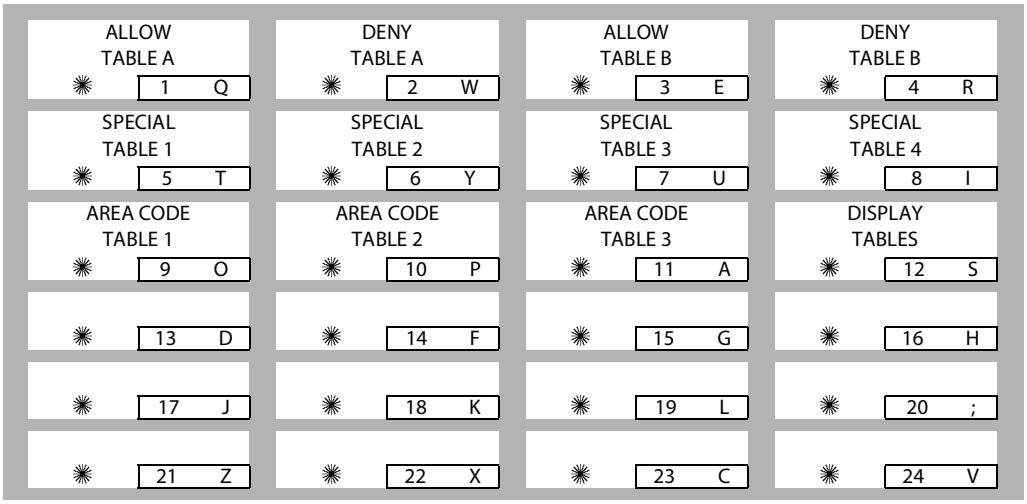
   XXX [0] = Remove Code from the list
   (XXX = An office code from 200 to 999)

3. Press HOLD after every code entered. A confirmation tone sounds and the display updates. Multiple codes may be entered in a row. The display updates showing the first six codes in ascending order.

Description

The Special Tables provide greater flexibility in designing a toll plan for a particular site.

- Each Special Table allows entry of up to 800 office codes (200–999).
- Three of these tables must be assigned an area code by which they are referenced. The fourth table is reserved for the home area code and requires no area code entry.
- The Special Tables are referenced through entries in the allow tables. Four area codes, including the home area code, can be referenced to these special tables for further definition. When a Special Table is referenced, entries must be made in the Special Table specifying what office codes are allowed.
- Codes can be added to the Allow list or removed from the list. When a Special Table is checked for a match to a 3-digit code and not found, the system continues to search the next Allow/Deny Table to be checked. The system does not return to the Allow Table which routed the call to the Special Table. By default, no codes are on the Allow list.



Display Toll Table Entries

Programming Steps

Press the DISPLAY TABLES flexible button **(FLASH 70, Button #12)** while entering information into a table.

Viewing Entries in an Allow or Deny Table

Two entries at a time are displayed on the bottom line of the display.

1. Press the DISPLAY TABLES button again, the next higher bins displays.
2. When the last entries are displayed, press the DISPLAY TABLES button again to show the first two entries.

```
ALLOW  TABLE  A
01  XXXXXXXE        02  XXXXXXXX
```

X = Allow or Deny Code

E = End of Entry

Viewing Entries in a Special Table

Six 3-digit codes allowed display in ascending order starting with the lowest entry. Press the DISPLAY TABLES button again, the next 6 entries display. This continues until all codes are displayed.

```
SPECIAL  TABLE  1          AC  XXX
YYY  YYY  YYY  YYY  YYY  YYY
```

XXX= Area Code

YYY= Allowed Office Code

Description

To view all toll tables entries using the display on the Executive telephone, press, the DISPLAY TABLES flexible button **(FLASH 70, Button #12)** multiple times to scroll through the entries.

It is recommended to view all entries in the Allow and Deny Table before leaving programming. Entries can be entered near the bottom of the list for searching the special tables or entries made in error. Viewing the entire Allow Table ensures proper entry and operation.

10 Least Cost Routing (LCR)

This chapter provides the functional steps necessary to use the LCR features with the *infinite DVX^{Plus} II/III/IV* System. To implement the most economical routes for an outside call, you must first enter the Programming Mode.

Introduction

Least Cost Routing (LCR) was designed to select the most economical programmed route for an outgoing call. When a station user dials an outside number, the LCR feature analyzes the number and then automatically chooses an outside line from the group that has been programmed as most economical.

The LCR feature puts the responsibility of choosing the least expensive route for each area code and exchange code on the system administrator, not on the station user. In order to make a routing decision, the LCR feature is programmed in the system database. The successful operation of this feature is completely dependent on the accuracy of the programming.

There are eight (8) different tables which are set up to monitor the dialing of digits of a station and to select the best route programmed for the call.

1. 3-Digit Area/Office Code Routing Table
2. 6-Digit Office Code Routing Table
3. Exception Table
4. Route List Table
5. Insert/Delete Table
6. Daily Start Time Table
7. Weekday (Weekly) Schedule
8. Toll Information Table

LCR Tables

3-Digit Table

The 3-Digit Table is divided into two sections: Leading 1 (1 is dialed before the number) and Non-Leading 1 (no 1 is dialed before the number). This gives the system the ability to handle call routing in areas that require a 1 before a long distance number as well as in areas that do not require the 1.

6-Digit Table (Office Codes)

The 6-Digit Table can accommodate 20 indexes. Each index is associated with an area code and can be programmed to route up to 800 office codes using 1 of the 16 possible routes. Several indexes can be used with the same area code to provide routing flexibility.

Daily Start Time Tables

The Daily Start Time Tables allow the user to match the Time Periods discount structure to the carriers rate schedule.

Default LCR Database

In an effort to decrease installation and set-up time usually associated with LCR, a default LCR Database has been incorporated. The default LCR Database provides basic routing for all local and long distance dialing.

Exception Tables

The Exception Table is used to route operator assisted calls and any other calls which would use a one or two-digit number rather than a three-digit area code.

Insert/Delete Tables

There are 20 Insert/Delete Tables. Up to 20-digits, including pauses, can be inserted and up to 16-digits deleted. To insure that a pause is inserted in LCR at default, the database programming has been changed to add a pause in each of the 20 LCR Insert and Delete Tables and Insert Table 0 in each of the route tables.

LCR Routing for Toll Information

The LCR Routing for Toll Information feature adds provisions to the LCR call processing which allows common call routing for all toll information calls. 1-(XXX)555-1212, (XXX)555-1212, 1-555-1212, and 555-1212 calls are intercepted and sent to a selected route in the Route List Table. Numbers dialed are integrated and if it is a toll information call, preceded with or without an area code or a leading digit 1, the call is sent to the route designated in programming.

Route List Tables

Up to 16 different routes can be programmed. Each route can contain up to four route lists, one for each of the four time periods. Up to seven CO line groups (routing choices) and their corresponding Insert/Delete Tables may be programmed within each route list.

Weekly Time Tables

The least costly route for a particular dialed number may not be the same at different times of the day or on different days of the week. For these situation, there are two Time-of-Day tables: a Daily Start Time Table and a Weekly Schedule Table. The Weekly Time Table determines which one of the four Routes LCR to use based on the Time-of-Day and Day-of-the-Week.

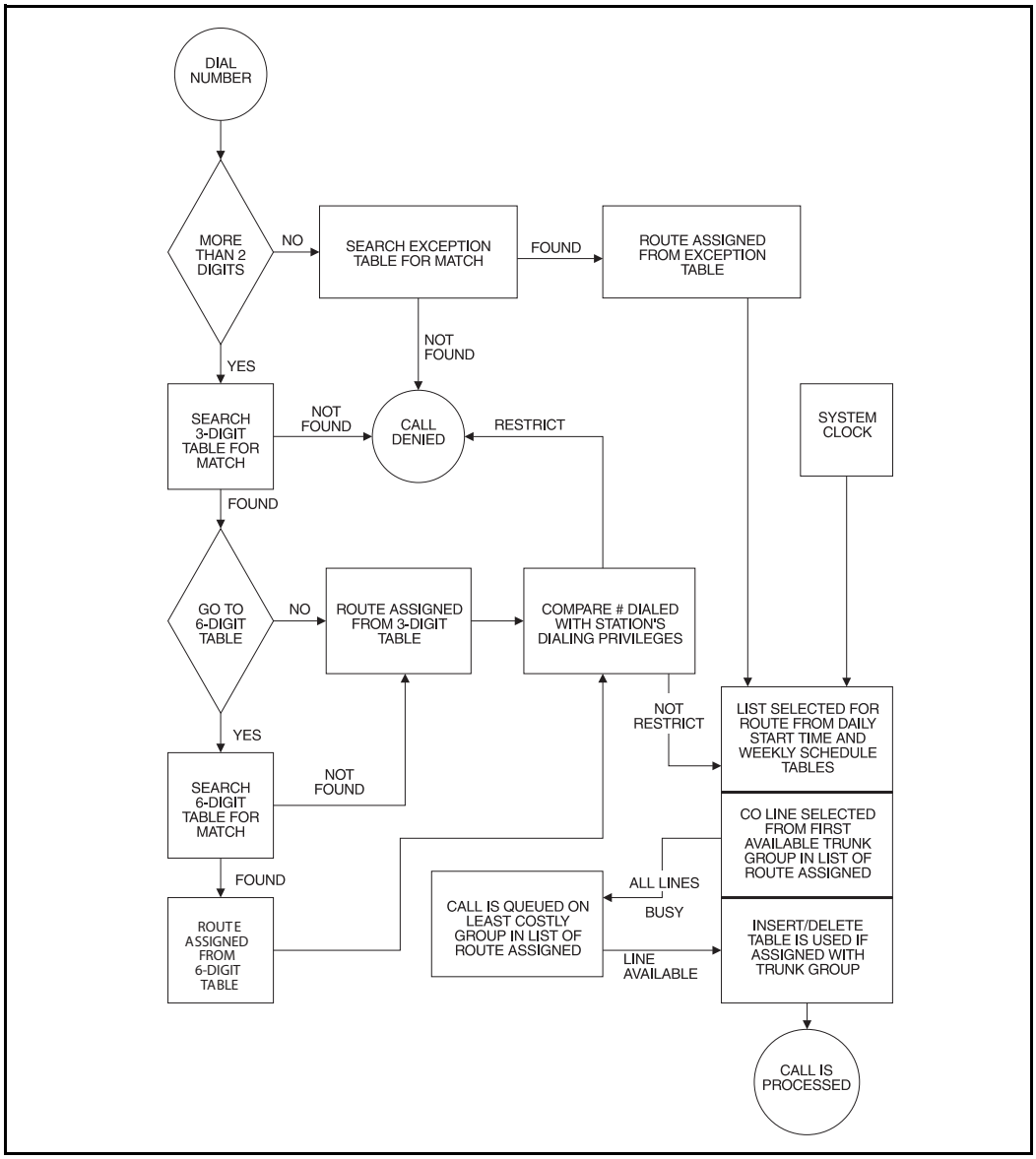


Figure 10-1: LCR Flowchart

LCR Operation

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

1. Press **FLASH** and dial **[75]**. The following message displays:

```
LCR TABLES
ENTER BUTTON NUMBER
```

2. There are eight tables which can be programmed here for LCR (you must also program LCR Class of Service in Station Programming). Use the procedures listed below to program these LCR tables.

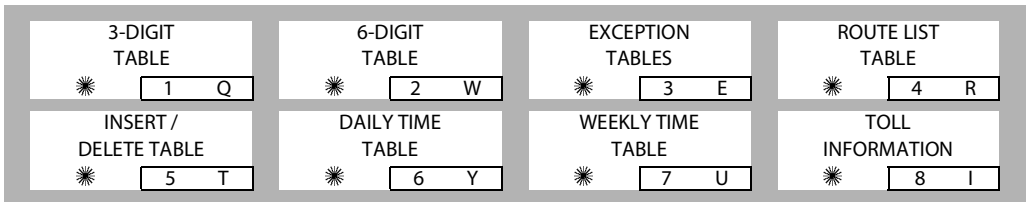
It is extremely important that the worksheets be completed before programming the LCR tables.

Description

The Least Cost Routing (LCR) feature allows automatic selection of the most economical trunk according to the number dialed and the time of the day and day of the week. There are eight (8) different tables set up to monitor the dialing of digits of a station and to select the best route programmed for the call.

Flash 05, button #7 must be used to enable the Least Cost Routing feature.

The buttons on the digital telephone are defined as shown when entering the LCR Tables Programming area:



3-Digit Area / Office Code Table

Programming Steps

1. Press the 3-DIGIT TABLE flexible button **(FLASH 75, Button #1)**. The following displays:

```
3 DIGIT ROUTING TABLE
ENTER  L  NNN  RRY  PP  HOLD
```

L = [0] for Non-Leading 1 (1 not dialed), [1] for Leading 1 (1 is dialed)
NNN = Area/Office Code
RR = Route List Number 00-15
Y = [0] Do not go to 6-digit table, [1] Go to 6-digit table
PP = Number of digits expected to be dialed.

2. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

Description

Both Leading 1 and Non-Leading 1 tables include all area codes (NPAs), and office codes (NXXs), from 000 to 999, including such numbers as 911, 411, etc. A complete entry into these tables include a route list table to be used, if the 6-digit table is to be checked and the number of digits likely to be dialed (Example: 7 or 10 digits). All local office codes must be entered in this table even if they do not require long distance calling.

The number of digits to expect entry aids the system in identifying when the last digit is dialed and to begin routing the call. This also helps to free SLT DTMF receivers if SLT traffic in the system is heavy.

For international calls, use 00 as number of digits to expect. This causes the system to wait five seconds (or inter-digit time-out) after user dials last digit before the system accesses a CO Line and dials out.

6-Digit Office Code Table

Programming Steps

1. Press the 6-DIGIT TABLE flexible button **(FLASH 75, Button #2)**. The following displays:

```
6 DIGIT ROUTING TABLE
ENTER  ✳  AAA  RR  NNN  HOLD
```

✳ = [0] to remove codes, [1] to add codes
AAA = Area Code
RR = Route Number 00-15
NNN = Office Code

2. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
3. Enter additional office codes to be programmed into the same Area Code/Route Table, pressing HOLD after each office code entry.
4. Press a flexible button to program a different table.

Deleting All Entries in an Area Code/Route Table

Enter [0 AAA RR ###].

Description

The 6-Digit Office Code Table determines a route for one or a group of individual office codes within an area code. Certain office codes within an area code can be given unique or special routing. If the office code dialed is not found in the 6-digit Office Code Table, the call is then routed according to the route list table as was entered in the 3-digit table.

The system allows twenty 6-digit Area/Office code tables that may be used to route specific office codes within an area code. Each table routes calls for a common area code to a specified route. All entries made to a table route those office codes to the specified route list table. An area code may be entered into more than one 6-digit table with different routes specified.

Exception Code Table

Programming Steps

1. Press EXCEPTION TABLES flexible button **(FLASH 75, Button #3)**. The following message displays:

```
EXCEPTION CODE TABLE
ENTER ✳ XX RR HOLD
```

✳ = [0] to remove code from table, [1] to add code to table

XX = Exception codes for single digit codes, press MUTE button as 2nd digit. (The [✳] may be entered as the 1st digit only.)

RR = Route Table Number 00–15

2. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.
3. Press **FLASH 75, Button #3** again for further entries. Up to 20 Exception Codes may be programmed in this table.

Description

The Exception Code Table is used for operator calls and any other calls that use a one- or two-digit entry, rather than a three-digit area code.

Route List Table

Programming Steps

1. Press the ROUTE LIST TABLE flexible button **(FLASH 75, Button #4)**. The following message displays:

```
ROUTE LIST TABLE
RR T GG DD L
```

RR = Route List Table Number 00–15

T = Time Period Route List 1–4

GG = CO Line Group 00–23

DD = Insert/Delete Table reference 00-19 (## for none)

L = LCR Class of Service (LCOS)

2. To create an entry, dial:
   a. [RR]
   b. [T]
   c. [GG]
   d. [DD]
   e. [L]
3. Press [HOLD] to save the entry. A confirmation tone sounds and the display updates.
4. To enter additional CO Line groups in the same Time Period Route List number:
   a. Dial [GG]
   b. Dial [DD]
   c. Dial [L]
   d. Press [HOLD]

Entering Data for a Different Time Period Route List

1. Press program **FLASH 75, Button #4** and enter all data (RR T GG DD L).
2. Repeat the above to program a new Route Number 00 to 15 or press a flexible button to program other LCR information.
3. To advance to the next entry, use Button #18.
4. To return to a previous entry, use Button #19.

   When **Call Cost** feature is enabled in FLASH 05, Button #11, the following displays.

```
ROUTE  LIST TABLE
RR  T  CCC  GG  DD  L
```

RR = Route List Table Number 00-15
T = Time Period Route List 1-4
CCC = Cost for one minute ($ 0.00 – $ 9.99)
GG = CO Line Group 00-23
DD = Insert/Delete Table reference 00-19 (## for none)
L = LCR Class of Service (LCOS)

Description

Each of the 16 Route List Tables available contains four Time Period Routing Lists, one for each of the four daily start time periods. Within each Time Period Route List up to seven CO (outside) line groups and their corresponding Insert/Delete table, if any, and LCR Class Of Service Priority are programmed on a per line group basis.

When routing a CO call through LCR, CO Line groups are accessed in sequence so that the first line group entered represents the least costly (and first selected) and the last line group entered represents the most costly (and last selected).

The Route List Table references many other tables when processing a call for routing. First, the Daily Start Time Table is referenced to determined what start time entry should be checked in the Weekly Schedule Table. The corresponding entry in the weekly schedule table depending on the day of the week then determines which Time Period Route List should be used within the Route List Table.

The system then begins to check for idle lines in the first entered CO line group and proceeds until an idle line is found. While it is searching for an idle CO line the Station LCR COS is checked against the entries for LCR COS Priority of the specific CO line groups (see *LCR COS Priority* explanation).

- When an idle CO Line is found with a LCR priority equal to or higher than the stations LCR COS, then a final check is made to determine if an Insert/Delete Table should be referenced.
- When all of the tables and entries are checked the system then processes the call on the outside CO line.

Make sure you made entries into all Time Period Route Lists referenced in the weekly schedule table.

LCR COS Priority

A station should be assigned a class of service for LCR. The LCR COS can be between 0 and 6, with 0 being unrestricted and 6 being the most restrictive. Within the time period route List table, line groups are given an LCR COS Priority assignment between 0 and 6.

A station using LCR is able to use only those CO (outside) line groups with a priority assignment of equal or higher value than the station's LCR Class of Service (e.g., a station with LCOS 3 can use line groups with a priority between 3 and 6).

Table 10-1: LCR Class of Service Table

Allow Access To Route		LCR CO Line Group Priority						
		0	**1**	**2**	**3**	**4**	**5**	**6**
STA LCR COS	0	Y	Y	Y	Y	Y	Y	Y
	1	N	Y	Y	Y	Y	Y	Y
	2	N	N	Y	Y	Y	Y	Y
	3	N	N	N	Y	Y	Y	Y
	4	N	N	N	N	Y	Y	Y
	5	N	N	N	N	N	Y	Y
	6	N	N	N	N	N	N	Y

N = Cannot Use Line Group
Y = Has Access to Line Group

Insert / Delete Table

Programming Steps

1. Press INSERT/DELETE TABLE flexible button **(FLASH 75, Button #5)**. The following message displays:

```
DIGIT  INSERT  /  DELETE
ENTER  TT  X  DDD  HOLD
```

2. Enter the table information as follows:
   - T T = Insert/Delete Table Number 00–19
   - X = [0] Pre-Delete numbers (first digits dialed in the number),

     -or-

     [1] Pre-Insert numbers (insert digits in front of number dialed,

     -or-

     [2] Post-Insert numbers (insert digits behind number dialed).
   - DDD = Digits (up to 16-digits may be deleted from the beginning of the number dialed and up to 40 digits can be inserted (20 pre and 20 post).
3. Press the HOLD button to save the entry. A confirmation tone sounds and the display updates.

Adding and Deleting Numbers in the Same Table

1. Enter the different Insertion/Deletion tables in step 1.
2. Enter as separate entries using the same table number.
3. In the Insert Tables for LCR Programming, press the TRANS button for a pause.
   - The [✳] and [#] digits are allowed as valid digits for inserting digits dialed over the network.
   - The [✳] and [#] are valid entries for adding digits in both the pre (in front of) or post (behind the number) tables.
   - The [✳] and [#] cannot be used as delete characters in the Delete tables.

Deleting a Table

Enter a valid table number and press the HOLD button.

Description

Digits can be either added or deleted when dialing a number. For instance, if a user dials a long distance call that should be placed on a foreign exchange (FX) line, the digit [1] and the three-digit area code (NPA) dialed by the user must be deleted before the call can be placed on that FX line. An Insert/Delete table can be programmed to do this.

Digits can also be added to a number that has been dialed by the user. For instance, Other Common Carrier (OCC) access codes and authorization (ID) codes can be automatically inserted by the system either in front of, and/or behind the number dialed.

There are twenty Insert/Delete Tables and each allows entries in a delete table and a pre- and post insert table. Up to 40 digits (including pauses) can be inserted (20 pre and 20 post) and up to 16 digits can be deleted. Digits can be inserted before or after the number dialed, but can be deleted only from the start of the number dialed.

To ensure that a pause is inserted in LCR at default, the database programming was changed to add a pause in each of the 20 LCR Insert and Delete Tables and insert table 0 in each of the route tables.

Daily Start Time Table

Programming Steps

1. Press the DAILY START flexible button **(FLASH 75, Button #6)**. The following displays:

```
DAILY  START  TIME  TABLE
HHMM  HHMM  HHMM  HHMM  HOLD
```

2. Enter times in military format (2400 hours) in succession.
3. Press the HOLD button to save the entry. A confirmation tone sounds; display updates.
   - Default times are 0800, 1700, 2300 (8 AM, 5 PM, and 11 PM), and the fourth time is disabled (####).
   - To change a Start Time, all times must be re-entered. Four pound signs [####] are displayed if nothing is entered for a specific time.

Description

The Daily Start Time Table correlates the LCR Routing Table to the time sensitive discount structure offered by the customers carrier.

Example -- In the most common situation:

- The most expensive period is between 8:00 am and 5:00 pm, often called the day rate.
- The first discount period usually starts at 5:00 pm and runs until 11:00 pm, often called Evening Rates.
- The remaining time (from 11:00 pm until 8:00 am) is referred to as night time rates which usually have the biggest discount.

Weekly Time Table -- With the wide selection of Common Carriers, the least costly route for a particular area code may be different at different times of the day. To accommodate this situation, this table and the Weekly Time Table work together, dividing the day into four possible time periods. By default these tables are set at the standard divisions of 8AM, 5PM, and 11PM. However, these times can be changed.

Entries in the Daily Start Time table are used to select the time period to reference in the weekly schedule. Based on the time a call is placed, the daily start time table selects the time period to choose in the weekly schedule. The weekly schedule is then used to determine the time period route list in the Route List Table to use for routing the call for a particular day of the week. Times are entered in the 24-hour format.

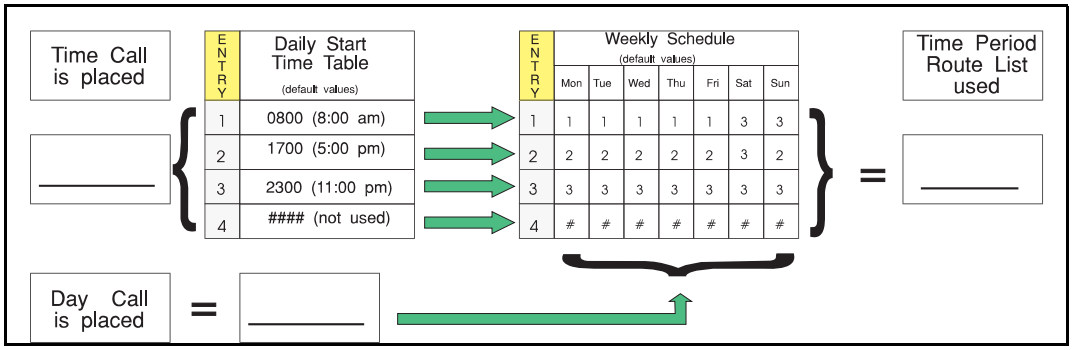

Time Call is placed
ENTRY
Daily Start Time Table
(default values)
1 0800 (8:00 am)
2 1700 (5:00 pm)
3 2300 (11:00 pm)
4 #### (not used)
ENTRY
Weekly Schedule
(default values)
Mon Tue Wed Thu Fri Sat Sun
1 1 1 1 1 1 3 3
2 2 2 2 2 2 3 2
3 3 3 3 3 3 3 3
4 # # # # # # #
Time Period Route List used
=
Day Call is placed
=

Figure 10-2: Daily Start Time and Weekly Schedule Tables

Weekly Schedule Table

Programming Steps

1. Press the WEEKLY SCHED flexible button **(FLASH 75, Button #7)**. The following displays:

```
WEEKLY SCHEDULE TABLE
ENTER  D  T  T  T  T  HOLD
```

   D = Day of the Week:

   [0] = Monday

   [1] = Tuesday

   [2] = Wednesday

   [3] = Thursday

   [4] = Friday

   [5] = Saturday

   [6] = Sunday

   T = Time Period Route List (1-4) to use for the time-of-day (based on the Daily Start Time table). Enter values for all time periods specified in the Daily Start Time table for that day.

   First T = Time Period Route List for the FIRST Daily Start Time (applies to all Route List tables).

   Second T = Time Period Route List for the SECOND Daily Start Time (applies to all Route List tables).

   Third T = Time Period Route List for the THIRD Daily Start Time (applies to all Route List tables).

   Fourth T = Time Period Route List for the FOURTH Daily Start Time (applies to all Route List tables).

2. Press the HOLD button after each complete daily entry. A confirmation tone sounds and the display updates.

Description

The Weekly Schedule Table determines what Time Period Route List to use within the Route List Table. When a call is placed and ultimately sent to a route list (call is not denied) based on the time of day the call is placed, the Daily Start Time Table selects the time period to reference in the Weekly Schedule Table.

The Time Period Route entered for the specified time period, as determined in the Daily Start Time Table and based on the day of week, is then selected and the call ia routed according to the specified Time Period Route List.

Example

If a call is placed at 5:45 pm on a Monday, then according to the Daily Start Time Table (using default values) the entry for time period two of the weekly schedule is checked. Because it is Monday the entry for time period two on Monday is used and the result is that the Time Period Route List number two (again using default values) is used for all routes. Thus, the call is routed according to the entries in Time Period Two Route List no matter what route (00–15) is selected.

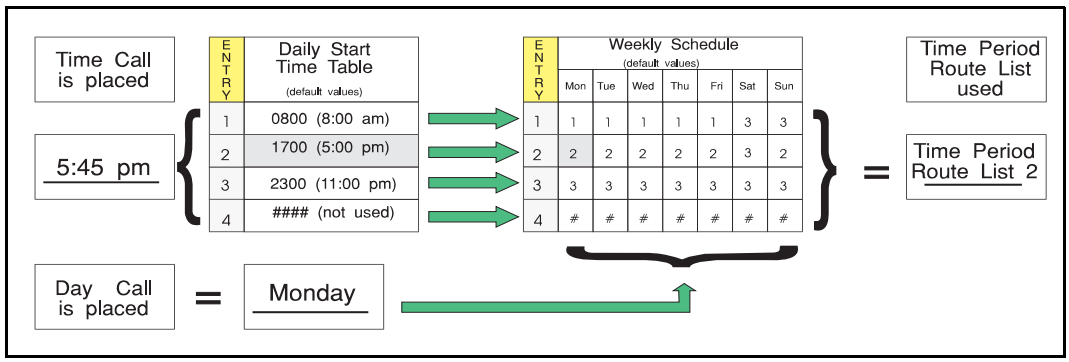

Time Call is placed
5:45 pm
Day Call is placed
Monday
ENTRY
Daily Start Time Table
(default values)
1 0800 (8:00 am)
2 1700 (5:00 pm)
3 2300 (11:00 pm)
4 #### (not used)
Weekly Schedule
(default values)
ENTRY Mon Tue Wed Thu Fri Sat Sun
1 1 1 1 1 1 3 3
2 2 2 2 2 2 3 2
3 3 3 3 3 3 3 3
4 # # # # # # #
Time Period Route List used
Time Period Route List 2

Figure 10-3: Daily and Weekly Start Time Table

LCR Routing for Toll Information

Programming Steps

1. Press the TOLL INFO flexible button **(FLASH 75, Button #8)**. The following message displays:

```
LCR ROUTE FOR 555 - 1212
ENTER ROUTE
```

2. Enter a valid Route List number (00–15) for the Route to be referenced in the Route List table.
3. Press the HOLD button after programming the Route number. A confirmation tone sounds and the display updates.
4. Enable LCR at this point.

Description

The LCR Routing for Toll Information feature adds provisions to the LCR call processing which allows common call routing for all toll information calls. 1-(XXX) 555-1212, (XXX) 555-1212, 1-555-1212, and 555-1212 calls are intercepted and sent to a selected route in the Route List Table.

Numbers dialed are integrated and if it is determined to be a toll information call, either preceded with an area code or without or with a leading digit 1 or not, the call is sent to the route designated in programming.

By default, Toll Information Calls are sent to Route List Table Zero (0) which allows toll information calls to be placed on the system at default. A Toll Information route is chosen over a 3-digit or 6-digit route assignment if both are assigned. Entering the pound key twice [##] denies all Toll Information Calls.

Default LCR Database

Programming Steps

In an effort to decrease installation and set up time usually associated with LCR, a default LCR database was incorporated.

Description

The default LCR database provides basic routing for local and long distance dialing. Default entries have been made in the 3-Digit Table for local office codes (NNXs) and all area codes (NPAs). Six routes have been established with the default database for routing of all calls under default.

11 Initializing Database Parameters

This chapter describes the procedures and steps necessary to initialize the system database, returning any programmed data to its original or default value.

Introduction

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode.

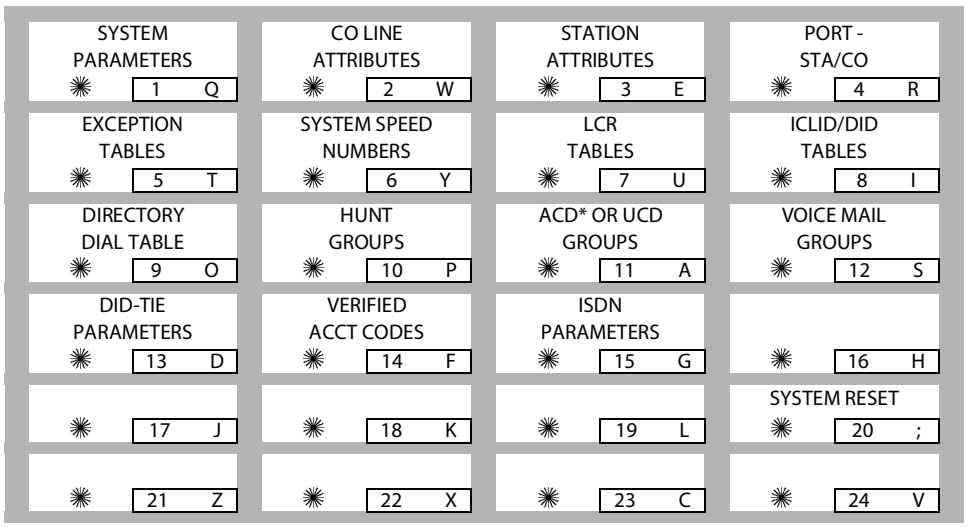
Press **FLASH** and dial **[80]**. The following message displays:

```
INITIALIZE  DATABASE
ENTER  BUTTON  NUMBER
```

Description

This section lets portions of the database be initialized individually. The initialization occurs regardless of the position of switch #8 on the MPB. The only way to initialize the entire database is to move switch #8 on the MPB board to the ON position and reset or power off/on the system. A System Reset (button #20) command is also included in this section for clearing meantime errors without initializing the database.

The buttons on the key telephone are defined as shown:



Initialize System Parameters

Programming Steps

1. Press the SYSTEM PARAMETERS flexible button **(FLASH 80, Button #1)**. The following message displays:

```
INITIALIZE  SYS  PARAM
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The System Parameters may be initialized setting all data fields to their original, default values. The following data fields are returned to their default values upon initializing the System Parameters.

Table 11-1: System Parameter Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 01	SYSTEM TIMERS		
	1	System Hold Recall Timer	060 sec
	2	Exclusive Hold Recall Timer	180 sec
	3	Attendant Recall Timer	1 min
	4	Transfer Recall Timer	45 sec
	7	Pause Timer	2 sec
	8	Call Park Recall Timer	180 sec
	9	Conference/DISA Timer	10 min
	10	Paging Time-out Timer	15 sec
	11	CO Ring Detect Timer	3=300 ms
	12	SLT DTMF Receiver Timer	20 sec
	13	Message Wait Reminder Tone	000=Disabled
	14	SLT Hook Flash Timer	10 (1 sec)
	15	SLT Hook Flash Debounce Timer	030=300 ms
	16	SMDR Call Qualification Timer	30 sec
	17	Automatic Call Back Timer	03 sec
	18	Reminder Ring Timer	00 sec
	20	Flexible Inter-Digit Timeout	5 sec
FLASH 02	ADDITIONAL SYSTEM TIMERS		
	1	Repeat Redial Timer	60 sec
	2	Attendant Display Timer	01 sec
	3	Call Coverage Ring Timer	5 sec
	4	Modem Answer T / O	25 sec
	5	Pulse Dial Inter-Digit Timer	300 ms
	6	Programmable DTMF Time Operation	1=100ms

Table 11-1: System Parameter Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 05	SYSTEM FEATURES 1		
	1	Attendant Override	Disabled
	2	Hold Preference	System
	3	External Night Ring	Disabled
	4	Executive Override Warning Tone	Enabled
	5	Page Warning Tone	Enabled
	6	Background Music Channel	Enabled
	7	Least Cost Routing	Disabled
	8	Account Codes - Forced	Disabled
	9	Group Listening	Disabled
	10	Idle Speaker Mode	Disabled
	11	Call Cost Display Feature	Disabled
	12	Music-On-Hold	Enabled
	13	Call Qualifier Tone	Disabled
FLASH 06	SYSTEM FEATURES 2		
	1	Barge-In Tone	Enabled
	2	Ring Tone	Enabled
	3	Verified Account Codes	Disabled
	4	Call Forward Display	Enabled
	5	External Day Ring	Disabled
	6	Overflow Station Forward	Disabled
	7	Direct Transfer Mode	Enabled
	8	Station ID Lock	Disabled
	9	LCR Call Progress	Enabled
	10	One-Touch Recording Warning Tone	Enabled
	11	Ringback on Transfer	Disabled
	12	ACD Agent Recall	Disabled
	13	911 Feature	Disabled
	14	Enhanced 911	Disabled
	15	VMID Station Numbers	STA Numbers = VMID

Table 11-1: System Parameter Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 07	FLASH RATES		
	1	Incoming CO Line Ringing	Red 480 ipm flutter
	2	Incoming Intercom Ringing	Red 120 ipm flutter
	3	Call Forward Button	Red Steady On
	4	Message Wait/VM Button	Red Steady On
	5	Message CallBack – DSS/BLF	Red 120 ipm flutter
	6	Do Not Disturb – DSS/BLF	Red 60 ipm Dbl Wink
	7	Auto CallBack – DSS/BLF	Red 120 ipm flash
	8	UCD Available/Unavailable – DSS/BLF	Red 60 ipm Dbl Wink
	9	Transfer CO Ringing	Red 120 ipm flash
	10	Recall CO Ringing	Red 480 ipm flutter
	11	Queued CO Ringing	Green 480 ipm flutter
	12	Exclusive Hold	Green 120 ipm flash
	13	System Hold	Red 60 ipm Dbl Wink
	14	In Use Hold (I-Hold)	Green 60 ipm flash
	15	Camp-On Button	Red 120 ipm flash
	16	Call Back Button	Red 120 ipm flash
	17	Line Queue Button	Red 480 ipm flutter
	18	Do Not Disturb Button	Red Steady On
	19	Intercom Hold Button	Red 15 ipm flash
FLASH 09	1-6	MOH Assignments	None
	7	E911 Power Failure Station	None
	10	School Mode	Disabled
	11	School Zone Call Forward Destination	None
FLASH 10	--	Attendant Station Assignment	STA 100
FLASH 11	1	System Time And Date	MMM/DD/YY, 12-hour display
FLASH 12	--	PBX Dialing Codes	None
FLASH 13	1-4	Executive/Secretary Pairs	None
FLASH 14	1-6	On-Board Relay	None
FLASH 15	BAUD RATE ASSIGNMENTS		
	1	Port #1 (On-Board RS-232C)	9600 Baud
	2	Port #2 (Modem - baud auto-negotiated)	None
	3	Port #3 (SIU2 Module RS-232) Optional	9600 Baud
	4	Port #4 (SIU2 Module RS-232) Optional	9600 Baud

Table 11-1: System Parameter Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 16	NETWORKING TABLES		
	1	Trunk Group	00
	2	Station Range (FROM)	1000
	3	Station Range (TO)	9999
	4	IP Address	--
	5	External BLF Cards 1-28	None
	6	Check Status	Disabled
	22	Page Up	None
	23	Page Down	None
	24	System Number	None
FLASH 20	1	DISA Access Code	100
	2	Database Admin Password	3226
FLASH 21	1	SMDR Enable/Disable	No
	2	Long Distance/Local Assignment	Long Distance
	3	Character Print Assignment	80
	4	Baud Rate Display	9600
	5	SMDR Port Assignments	Port #1
FLASH 22	1	Automatic/Manual Operation	Manual=None; Auto= M-F 08:00 17:00 Sat-Sun ##:## ##:##
	2-8	Day of Week Programming	None
FLASH 23	1-4	Directory Dialing Table	None
FLASH 24	1-12	Card Slots (0-11)	Slot 0
	15/16	Power Supply Types (0-1)(*DVX^{Plus} IV*)	10 Amp
	17-20	Cabinets (0-3)	Cabinet 0
FLASH 30	1-12	Hunt Group	None
	13	Station/Pilot/Pilot Ring All--Hunting Assignments	Pilot
FLASH 31	1	Verified Account Code Entry	None
	2	COS	None
FLASH 39	1-24	CO Group Queuing	Enabled

Initialize CO Line Attributes

Programming Steps

1. Press the CO LINE ATTRIBUTES flexible button (**FLASH 80, Button #2**). The following message displays:

```
INITIALIZE  CO  LINES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The CO Line parameters may be initialized setting all data fields to their original, default values. The following data fields are returned to their default value upon initializing the CO Line Attributes.

Table 11-2: CO Line Attribute Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 40 PAGE A	1	DTMF/Dial Pulse Programming	DTMF
	2	CO/PBX Programming	CO
	3	UNA Programming	Enabled
	4	DISA CO-to-CO (Per CO Line)	Enabled
	5	Privacy	Enabled
	6	Loop Supervision Programming	4=400 ms
	7	DISA Programming	Disabled
	8	CO Line Group Programming	Group 1
	9	Class of Service (COS) Programming	COS 1
	10	CO Line Ringing Assignments	STA 100
	11	CO Line Identification Display	Line XXX
	12	CO Direction	Incoming/Outgoing
	13	Display Ring Assignments	None
	14	DID/TIE Signal Type	Wink
	15	911 Trunk	Disabled
	16	EKTS	Disabled

Table 11-2: CO Line Attribute Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 40 PAGE B	1	T-1 Signaling Type	Loop Start
	2	T-1 Ringback	Enabled
	3	T-1 Dial Tone	Disabled
	4	Transmit Volume	5=0 db
	5	Preset Call Forward Destination	####
	6	Preset Forward Voice Mail ID	####
	7	Universal Day Answer	Disabled
	8	Music-On-Hold per CO Line	Channel 1
	9	Ring Tone per CO Line	Tone # 00
	10	Directory Number	None
	11	SPID	None
FLASH 40 PAGE C	1	Flash Timer Programming	10=1.0 sec
	2	Ring Delay Timer	00=Disabled
	3	Wink Timer	140 ms
	4	Release Timer	020=200 ms
	5	Reseize Timer	200=200 ms
	6	Guard Timer	05=.5 sec
	7	Seize Timer	010=0.1 sec
	8	Preset Forward Timer	10 sec
	9	DID Collect Timer	015=150 ms
	10	T-1 Collect Timer	015=150 ms

Initialize Station Attributes

Programming Steps

1. Press the STATION ATTRIBUTES flexible button (**FLASH 80, Button #3**). The following message displays:

```
INITIALIZE  STATIONS
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The Station Parameters may be initialized setting all data fields to their original, default values. The following data fields are returned to their default value upon initializing the Station Attributes.

Table 11-3: Station Attribute Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 50/51	1	Paging Access	Enabled
PAGE A	2	Do Not Disturb	Enabled
	3	Conference Enable/Disable (Per Station)	Enabled
	4	Executive Override	Disabled
	5	Privacy (Per Station)	Enabled
	6	System Speed Dial Access	Enabled
	7	Line Queuing	Enabled
	8	Preferred Line Answer	Enabled
	9	Off-Hook Voice Over (OHVO)	Disabled
	10	Call Forwarding	Enabled
	11	Forced Least Cost Routing (LCR)	Disabled
	12	ACD Supervisor Monitor w/Barge-In	Disabled
	13	Executive Override Block	Disabled
	14	CO Line Ringing	Muted Ring
	15	Name/Number Display at Idle	Name (Enabled)
	16	ACD Zap Tone	Disabled
	17	CO Loop Pool Flex	Disabled
	18	Administration Access	Disabled

Table 11-3: Station Attribute Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 50/51 PAGE B	1	Station Identification	006 (24-Btn Keyset) 6 (SLT w/o MW)
	2	Station Day Class of Service	1
	3	Station Night Class of Service	1
	4	Speakerphone/Headset Programming	0=Full Speakerphone
	5	Pick-Up Group(s) Programming	1
	6	Paging Zone(s) Programming	1
	7	School Zone Station Assignments	Disabled
	8	CO Line Group Access	1
	9	LCR Class of Service (COS)	0
	10	Off-Hook Preference Programming	00 (Keyset)
	11	Flexible Button Programming	(blank)
	12	Keyset Mode	Inactive Mode
	13	Voice Mail ID Translation	XXXX (Station #)
	14	Display Flexible Buttons	None
	15	Light Control	None
	17	Cordless Key Button	00
FLASH 50/51 PAGE C	1	Internal No Answer Destination	None
	2	Internal Busy Destination	None
	3	External No Answer Destination	None
	4	External Busy Destination	None
	5	No Answer Timer	10 sec
	6	Speed Dial Access	None

Initialize CO Port Assignments / Flexible Numbering Assignments

Programming Steps

1. Press the CO PORTS/COD flexible button (**FLASH 80, Button #4**). The following message displays:

```
INITIALIZE  CO  PORTS/COD
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone is heard.

Description

The following data fields are returned to their default values upon initializing the CO Port Assignments.

Button #	CO Line #	Port #
1	001–008	1–8
2	009-016	9-16
3	017-024	17-24
4	025-032	25-32
5	033-040	33-40
6	041-048 %	41-48
7	049-056	49-56
8	057-064	57-64
9	065-072	65-72
10	073-080	73-80
11	081-088	81-88
12	089-096	89-96
13	097-104	097-104
14	105-112	105-112
15	113-120	113-120
16	121-128	121-128
17	129-136	129-136
18	137-144%%	137-144

% = CO Lines 001-048 available w/o the MEMU installed (DVX^{Plus} IV)
%% = CO Lines 001-144 available with the MEMU installed (DVX^{Plus} IV)

Also all Flexible Numbering Assignments are initialized to the default values as shown in *Appendix C, "Default Numbering Plan."*

Initialize Exception Tables

Programming Steps

1. Press the EXCEPTION TABLES flexible button (**FLASH 80, Button #5**). The following message displays:

```
INITIALIZE  EX  TABLES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The Exception Tables parameters, including the Allow/Deny Tables and the Special Tables, may be initialized setting all tables to their original, default values. The following Tables are cleared returning to their default value upon initializing the Exception Tables parameters:

Table 11-4: Exception Table Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 70	TOLL RESTRICTION		
	1	Allow Table A	Table Cleared (No Entries)
	2	Deny Table A	
	3	Allow Table B	
	4	Deny Table B	
	5	Special Table 1	Table Cleared (No Entries allowed, No Area Code specified)
	6	Special Table 2	
	7	Special Table 3	
	8	Special Table 4 (Home Area Code)	Table Cleared (No Entries allowed)
	9	Area Code for Special Table 1	
	10	Area Code for Special Table 2	
	11	Area Code for Special Table 3	
	12	Displaying Toll Table Entries	

Initialize System Speed Numbers

Programming Steps

1. Press the SYSTEM SPEED NUMBERS flexible button (**FLASH 80, Button #6**). The following message displays:

```
INITIALIZE  SYS  SPEED  NO
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

Numbers entered into the System Speed Dial Table may be initialized clearing all bins to their original, default value (empty). All bins 9020-9999 are cleared returning to their default value (empty) upon initializing the Speed Dial Table.

When upgrading software from FP2 to FP3, all previously programmed speed dial buttons will be lost.

Initialize LCR Tables

Programming Steps

1. Press the LCR TABLES flexible button (**FLASH 80, Button #7**). The following message displays:

```
INITIALIZE  LCR  TABLES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The LCR Tables may be initialized to set all tables to their original default values. The following tables are reset to their original default value after initialization of the LCR Tables:

Table 11-5: LCR Table Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 75	LCR TABLES		
	1	3-Digit Area/Office Code Table	Default values assigned
	2	6-Digit Area/Office Code Table	
	3	Exception Code Table	
	4	Route List Table	
	5	Insert/Delete Table	
	6	Daily Start Time Table	
	7	Weekly Schedule Table	
	8	LCR Routing for Toll Information	

Initialize ICLID-DID Tables

Programming Steps

1. Press the ICLID-DID TABLES flexible button (**FLASH 80, Button #8**). The following message displays:

```
INITIALIZE  ICLID-DID
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

ICLID Table parameters may be initialized, setting all data fields to their original default values.

Table 11-6: ICLID-DID Table Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 43	ICLID-DID TABLES		
	1	ICLID Ringing Assignments	None
	18	Next ICLID Route Number	--
	19	Previous ICLID Route Number	--
	20	Select Route Number	--
FLASH 44	1	Route Number	None
	2	DID Phone Number	--
	3	DID Name Assigned to Number	None
	4	Erasing a DID Table Entry	--
FLASH 55		LOCAL NUMBER/NAME TRANSLATION	
	1	Route Number	None
	2	Phone Number	None
	3	Name	None
	4	Clear Entry	None
FLASH 56	1	ICLID Disable/Enable	Disabled
	2	ICLID Name in Display	0=Telephone Number
	3	ICLID Baud Rate Display	9600
	4	ICLID Port Assignment	Port #1

Initialize Directory Dialing Table Parameters

Programming Steps

1. Press the DIRECTORY DIAL TABLE flexible button (**FLASH 80, Button #9**). The following message displays:

```
INITIALIZE DIR - DIAL
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The Directory Dialing Table Parameters may be initialized setting all data fields to their original default values.

Table 11-7: Directory Dialing Table Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 23	DIRECTORY DIALING TABLE		
	1	Bin/ICM	None
	2	Name	
	3	Clear	

Initialize Hunt Group Parameters

Programming Steps

1. Press the HUNT GROUPS flexible button (**FLASH 80, Button #10**). The following message displays:

```
INITIALIZE HUNT GROUP
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

Hunt Group Parameters may be initialized setting all data fields to the original default values.

Table 11-8: Hunt Group Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 30	HUNT GROUPS		
	1-12	Hunt Group Programming	None
	13	Station/Pilot Hunting Assignment	Pilot

Initialize ACD / UCD Group Parameters

Programming Steps

1. Press the ACD or UCD GROUPS flexible button (**FLASH 80, Button #11**). The following message displays:

```
INITIALIZE  ACD  GROUP
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

ACD or UCD Group Parameters may be initialized setting all data fields to their original, default values.

Table 11-9: UCD Group Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 60	UCD GROUPS 550-557		
	2	Alternate Group Assignment	None
	3	Overflow Station Assignment	None
	7	UCD Primary Agent Assignment	None
	10-11	Recorded UCD Announcement Assignment(s)	None
FLASH 61	UCD TIMERS		
	1	UCD Ring Timer	60 sec
	2	UCD Message Interval Timer	60 sec
	3	UCD Overflow Timer	60 sec
	4	UCD Auto Wrap-Up Timer	04 sec
	5	UCD No-Answer Recall Timer	000=Disabled
	6	UCD No-Answer Retry Timer	300 sec
FLASH 62	1-8	UCD Announcement Tables (RAN)	None

Table 11-10: ACD Group Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 60	ACD GROUPS 550-565		
	1	Group Name	None
	2	Alternate Group Assignment	None
	3	Overflow Station Assignment	None
	4	Supervisor Programming	None
	5	CIQ Threshold	Disabled
	6	Auto Wrap-Up Timer (Per Group)	04 sec
	7	Primary Agents	None
	8	Secondary Agents	None
	9	Guaranteed RAN	None
	10	Primary RAN	None
	11	Secondary RAN	None
	12	Transferred RAN	None
	13	Overflow Timer	60 sec
	14	Call Factor	None
FLASH 61	ACD TIMERS		
	1	ACD*/UCD Ring Timer	60 sec
	2	ACD*/UCD Message Interval Timer	60 sec
	5	ACD*/UCD No-Answer Recall Timer	000=Disabled
	6	ACD*/UCD No-Answer Retry Timer	300 sec
	7	ACD* Guaranteed Message Timer	05 sec
FLASH 62	1-8	ACD* Ran Announcement Tables	None
FLASH 63	1	Event Trace Disable/Enable	Disabled
	2	Trace Port Assignment	Port #1
	3	Baud Rate Display	9600 Baud

** Features available with optional software*

Initialize Voice Mail Group Parameters

Programming Steps

1. Press the VOICE MAIL GROUPS flexible button (**FLASH 80, Button #12**). The following message displays:

```
INITIALIZE  VM  GROUP
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

VM Group Parameters may be initialized, setting all data fields to their original default values.

Table 11-11: Voice Mail Group Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 65	VOICE MAIL GROUPS		
	1-8	Voice Mail Groups(440-447)	None
	9	Alternate Voice Mail Group	None
	10	Standard Leave Mail Index Entry	VM Group 1 Index = 0
	11	Retrieve Mail Index Entry	VM Group 1 Index = 1
	12	Station Assignments	None
	13	No Answer Leave Mail Index Entry	VM Group 1 Index = 0
	14	Busy Leave Mail Index Entry	VM Group 1 Index = 0
FLASH 66	1-8	Voice Mail In-Band Signaling	Table 0: Pre=P7, Suf=None Table 1: Pre=P7, Suf=✳ Tables 2-6: None Table 7: Pre=P7, Suf=2
	9	Voice Mail Disconnect Table	None
FLASH 67	1	Voice Mail In-Band Digits	Enabled
	2	Voice Mail Transfer/Forward	Enabled
	3	Voice Mail Broker	Enabled
	4	VM ID Digits	3

Initialize DID-TIE Parameters

Programming Steps

1. Press the DID-TIE PARAMETERS flexible button (**FLASH 80, Button #13**). The following message displays:

```
INITIALIZE DID-TIE TMRS
PRESS HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The DID-TIE Parameters and Timers may be initialized, setting all data fields to their original default values.

Table 11-12: DID-TIE Parameter Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 41	MISCELLANEOUS CO PARAMETERS		
	1	Dial Pulse	60/40 10 pps
	3	DID Digits	3
	5	DID Incoming Signaling	DTMF
	6	T-1 Incoming Signaling	DTMF
	7	T-1 Framing Type	D4SF-AMI

Initialize Verified Account Code Table

Programming Steps

1. Press the VERIFIED ACCT CODES flexible button (**FLASH 80, Button #14**). The following message displays:

```
INITIALIZE  ACCT  CODES
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The Verified Account Code Table may be initialized setting all data fields to their original default values.

Table 11-13: Verified Account Code Table Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 31	VERIFIED ACCOUNT CODES		
	1	Account Code	None
	2	Class of Service (COS)	None
	3	Delete Account Code	None
	4	Erase Digits	None

Initialize ISDN/VOIP Parameters

Programming Steps

1. Press the ISDN/VOIP PARAMETERS flexible button (**FLASH 80, Button #15**). The following message displays:

```
INITIALIZE  ISDN/VOIP
PRESS  HOLD
```

2. Press the HOLD button. A confirmation tone sounds.

Description

The ISDN/VOIP Parameters may be initialized setting all data fields to their original default values.

Table 11-14: ISDN Parameter Defaults

Program Code	Flex Button	Features	Default Value (after initialization)
FLASH 45 PAGE A	ISDN PARAMETERS		
	1	Basic Rate Interface (BRI) CO Type	NI1
	2	Primary Rate Interface (PRI) CO Type	NI2
	3	Framing	ESF
	4	NE/TE Mode	TE
	5	Power	Disabled
	6	Directory Number	None
	7	Max Out I-Frames	K 001
	8	Leading 1	Enabled
	9	Leading 011	Enabled
	10	7/8 Digit Number Plan	ITU
	11	Calling Number	Enabled
	12	Loopback	Normal
	13	10 Digit Number Plan	ITU
	14	11 Digit Number Plan	ITU
PAGE B	1	Maximum Number Retransmission	3
	2	Maximum Octets	260
	3	Maximum TEI ID Request	003
	4	Maximum XID Retransmission	3 sec
	5	T-200	01 sec
	6	Maximum TEI ID Check Message	01 sec
	7	Maximum TEI ID Request	02 sec
	8	Message Exchange Timer	15 sec
	9	Minimum XID Retransmission	3 sec
	10	Inter Digit T/O	25 sec
	11	Set-Up Timer	10 sec
	12	Disconnect Timer	04 sec
	13	Release Request	04 sec
	14	Link Disconnect	30 sec
	15	Call Proceeding	60 sec
	16	Connect Request	04 sec
	17	Restart Request Timer	120 sec

System Reset

Programming Steps

If the System must be reset but not initialized:

1. Press the RESET flexible button (**FLASH 80, Button #20**). The following message displays:

```
RESET  SYSTEM
PRESS  HOLD
```

2. To reset the system without initializing the database, press the HOLD button. No confirmation tone sounds and the system resets.

Description

The System Reset feature provides a hard system reset from the keyset instead of the KSU. This is useful in cases where miscellaneous data errors have occurred and the system needs to be reset without initializing the entire database.

12 Printing System Database Parameters

This chapter describes the procedures and steps necessary to print the system database parameters and various portions of the system.

Introduction

Print Database Parameters

Programming Steps

Press **FLASH** and dial **[85]**. The following message displays:

```
PRINT DATABASE
ENTER BUTTON NUMBER
```

Description

The buttons on the key telephone are defined as shown in the following table when entering the Print Database Parameters programming area:

SYSTEM PARAMETERS 1 Q	CO LINE ATTRIBUTES 2 W	STATION ATTRIBUTES 3 E	PORT - STA/CO 4 R
EXCEPTION TABLES 5 T	SYSTEM SPEED NUMBERS 6 Y	LCR TABLES 7 U	ENTIRE SYSTEM 8 I
ICLID-DID TABLES 9 O	DIRECTORY DIAL TABLE 10 P	HUNT GROUPS 11 A	ACD* OR UCD GROUPS 12 S
VOICE MAIL GROUPS 13 D	DID-TIE PARAMETERS 14 F	VERIFIED ACCT CODES 15 G	ISDN PARAMETERS 16 H
17 J	18 K	19 L	20 ;
21 Z	22 X	23 C	24 V

** Features available with optional software.*

The Print Database Parameters command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

Refer to the following figures for examples of the database printouts. Also refer to the following paragraphs for instructions on printing portions of the database.

Database Printing

Print System Parameters

Programming Steps

1. Press the SYSTEM PARAMETERS flexible button **(FLASH 85, Button #1)**. The following message displays:

```
PRINT SYS PARAM
PRESS HOLD
```

2. To print the System Parameters database, press the HOLD button. The following message displays:

```
PRINT SYS PARAM
```

   When the system finishes sending the information to the printer, a confirmation tone sounds.

Description

The currently stored customer database can be printed or uploaded into a file. This command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. When printing the System Parameters the following data prints:

- All System Timers
- All System Wide Options (External Night Ringing, Hold Preference)
- Attendant Station(s) Programming
- Other System Assignments (Page/Relay Assign, Exec/Sec, SMDR)
- Weekly Night Mode Schedule

```
----- SYSTEM  PARAMETERS ----  --------------------SYSTEM FEATURES -------------


                               CO RING TONES         ENABLED
                               VERIFIED ACCT CODES   DISABLED
SYS HOLD RECALL      60        CALL FWD DISPLAY      ENABLED
EXC HOLD RECALL      180       EXTERNAL DAY RING     DISABLED
ATND RECALL TIMER    1         OVERFLOW STA FWD      DISABLED
TRANSFER RECALL      45        DIRECT XFER           ENABLED
PRESET FWD TIMER     10        STATION LOCK          DISABLED
CALL FWD NO ANS      15        LCR CALL PROGRESS     ENABLED
PAUSE TIMER          2         RECORDING WARN TONE   ENABLED
CALL PARK TIMER      180       MAINTENANCE           DISABLED
CONFERENCE TIMER     10        RINGBACK ON XFER      DISABLED
PAGING TIMEOUT       15        DID/TIE SIGNALING     DISABLED
CO RING DETECT       3         911 FEATURE           DISABLED
SLT RCVR TIMER       20
M/W TONE TIMER       0         -------------SYSTEM   LED       FLASH RATES -------
HOOK SWITCH TIME     10
HOOK SWT BOUNCE      10        INC CO RING           RED       480 IPM FLUTTER
SMDR CALL QUAL       30        INC ICM RING          RED       120 IPM FLUTTER
AUTO CALL BACK       3         CALL FORWARD BTN      RED       STEADY ON
REMINDER RING        0         MSG WAIT VM BTN       RED       STEADY ON
RELEASE GUARD        3         MSG CBCK DSS/BLF      RED       120 IPM FLUTTER
INTERDIGIT T/O       5         DND DSS/BLF           RED       60 IPM DBL WINK OFF
RPT REDIAL           60        AUTO CBCK DSS/BLF     RED       120 IPM FLASH
ATTENDANT DISPLAY    1         UCD UNAVL DSS/BLF     RED       60 IPM DBL WINK OFF
CALL COVERAGE RING   5         TRANSFER CO RING      RED       120 IPM FLASH
MODEM ANSWER T/O     25        RECALL CO RING        RED       480 IPM FLUTTER
INT DIGIT PULSE      300       EXCLUSIVE HOLD        GREEN     120 IPM FLASH
DTMF ON/OFF TIME     1         QUEUED CO RING        GREEN     480 IPM FLUTTER
                               SYSTEM HOLD           RED       60 IPM DBL WINK OFF
-- SYSTEM  FEATURES  --------   IN USE HOLD          GREEN     60 IPM FLASH
                               CAMP ON BTN           RED       120 IPM FLASH
ATTENDANT OVERRIDE   DISABLED  CALL BACK BTN         RED       120 IPM FLASH
HOLD PREFERENCE      SYSTEM    LINE QUEUE BTN        RED       480 IPM FLUTTER
EXTERNAL NIGHT RING  DISABLED  DND BTN               RED       STEADY ON
EXECUTIVE WARNING    ENABLED   ICM HOLD BTN          RED       15 IPM FLASH
PAGE WARNING TONE    ENABLED   LEADING DIGIT 1       LEADING   DIGIT
BACKGROUND MUSIC     ENABLED   LEADING DIGIT 2       NONE
LEAST COST ROUTING   DISABLED  LEADING DIGIT 3       NONE
FORCED ACCOUNT CODE  DISABLED  LEADING DIGIT 4       NONE
GROUP LISTENING      DISABLED  LEADING DIGIT 5       NONE
IDLE SPEAKER MODE    DISABLED  LEADING DIGIT 6       NONE
CALL COST DISPLAY    DISABLED  LEADING DIGIT 7       NONE
MUSIC ON HOLD        ENABLED   LEADING DIGIT OPTION  DISABLED
CALL QUALIFIER TONE  DISABLED  CENTREX DIGITS        4
BARGE IN WARN TONE   ENABLED   VM ID DIGITS          3
```

Figure 12-1: System Parameters Printout

```
MUSIC CHANNEL[3..8]           CABINET  SLOT   TYPE
CO - ## #### ## ## ##         -------  ----   ----
                                 0       0    DT24
ATTENDANT STATIONS               0       1    DTIB
100    ## ## ##    ## ## ##     0       2    DTIB
                                 0       3    NONE
DATE & TIME FORMAT               0       4    SLIB
MM/DD/YY, 12 HOURS               0       5    NONE
                                 0       6    LCOB
PBX DIALING CODES                0       7    PRIB
##     ##    ##    ##     ##     0       8    LCOB
                                 0       9     MPB
EXECUTIVE/SECRETARY PAIRINGS     1      0-9   NONE
1 =    ###   ###                 2      0-5   NONE
2 =    ###   ###                 3      0-5   NONE
3 =    ###   ###
4 =    ###   ###                POWER SUPPLY TYPES (DVX Plus IV)
                                 ----------------------------
ON BOARD RELAY ASSIGNMENTS       10 AMPS  10 AMPS   10 AMPS   10 AMPS
NONE   NONE NONE  NONE   NONE
NONE                             ALARM DESC.     ALARM  PERIOD  THRESHOLD    ATTENDANT
                                                                MINOR MAJOR
I/O BAUD RATE                    CARRIER LOSS      Y       5     15    30         Y
------------------               BLUE ALARM        Y       5     15    30         Y
Port   1 =   9600                YELLOW ALARM      Y       5     15    30         Y
Port   2 =   2400                RED ALARM         Y       5     15    30         Y
Port   3 =   9600                BIPOLAR VAR.      Y       5     15    30         Y
Port   4 =   9600                SLIP ALARM        Y       5     15    30         Y
                                 DATA ERRORS       Y       5     15    30         Y
AUTO NIGHT MODE   N

WEEKLY NIGHT MODE SCHEDULE
--------------------------
            END   START
DAY         TIME  TIME
M      0    0800  1700
T      1    0800  1700
W      2    0800  1700
T      3    0800  1700
F      4    0800  1700
S      5    ####  ####
S      6    ####  ####

DIAL PULSE - 60/40 10 PPS
```

Figure 12-1: System Parameters Printout

Print CO Line Attributes

Programming Steps

1. Press the CO LINE ATTRIBUTES flexible button **(FLASH 85, Button #2)**. The following message displays:

```
PRINT CO LINES
PRESS HOLD
```

2. To print data for:
   - ALL CO Lines, press the HOLD button.
   - A specified CO Line Range, enter 6 digits (3 digits for the first line and 3 digits for the last line in the range):
   - One CO Line, enter that line twice: [001001]
3. Then press the HOLD button. The following message displays and the CO Line data prints:

```
PRINTING CO LINES
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print CO Line Attributes command dumps the entire database as a permanent record which can serve as a hardcopy of the database The system baud rate must match that of the printer or receiving device.

When printing the CO Line attributes the following data prints:

- All CO Line parameters within the specified range.
- CO Line ringing assignments within the specified range.
- Dial Pulse Ratio and Speed settings

```
CO LINE ATTRIBUTES
------------------
CO  01                                  CO 02
------                                  -----
DIAL PULSE/DTMF - DTMF                  DIAL PULSE/DTMF - DTMF
PBX/CO - CO                             PBX/CO - CO
UNIVERSAL NIGHT ANS - ENABLED           UNIVERSAL NIGHT ANS - ENABLED
DISA TRK TO TRK - ENABLED               DISA TRK TO TRK - ENABLED
PRIVACY - ENABLED                       PRIVACY - ENABLED
LOOOP SUPERVISION - 4                   LOOP SUPERVISION - 4
DISA TYPE - NONE                        DISA TYPE - NONE
LINE GROUP - 1                          LINE GROUP - 1
CLASS OF SERVICE - 1                    CLASS OF SERVICE - 1
LINE IDENTIFICATION - LINE 01           LINE IDENTIFICATION - LINE 02
CO DIRECTION - INCOMING-OUTGOING        CO DIRECTION - INCOMING-OUTGOING
RING ASSIGNMENTS                        RING ASSIGNMENTS
                100A                                    100A
T-1 SIGNAL TYPE - LOOP START            T-1 SIGNAL TYPE - LOOP START
T-1 RINGBACK - ENABLED                  T-1 RINGBACK - ENABLED
T-1 DIALTONE - DISABLED                 T-1 DIALTONE - DISABLED
TRANSMIT VOLUME - 0DB                   TRANSMIT VOLUME - 0DB
PRESET FORWARD DEST - NONE              PRESET FORWARD DEST - NONE
PRESET FWD VMID - NONE                  PRESET FWD VMID - NONE
UNIVERSAL DAY ANSWER - DISABLED         UNIVERSAL DAY ANSWER - DISABLED
MOH CHANNEL - 1                         MOH CHANNEL - 1
RING TONE - 0                           RING TONE - 0
DID/TIE SIGNALLING - WINK               DID/TIE SIGNALLING - WINK
911 TRUNK - DISABLED                    911 TRUNK - DISABLED
FLASH TIMER - 10                        FLASH TIMER - 10
RING DELAY TIMER - 0                    RING DELAY TIMER - 0
WINK TIMER - 140                        WINK TIMER - 140
RELEASE TIMER - 20                      RELEASE TIMER - 20
RESEIZE TIMER - 200                     RESEIZE TIMER - 200
GUARD TIMER - 50                        GUARD TIMER - 50
SEIZE TIMER - 10                        SEIZE TIMER - 10
PRESET FWD TIMER - 100                  PRESET FWD TIMER - 100
DID COLLECT TIMER - 15                  DID COLLECT TIMER - 15
T1 COLLECT TIMER - 15                   T1 COLLECT TIMER - 15

                                        ... and so on through CO lines:
                                          001-048 = DVXPlus II/III      001-144 = DVXPlus IV
```

Figure 12-2: CO Line Attributes Printout

Print Station Attributes

Programming Steps

1. Press the STATION ATTRIBUTES flexible button **(FLASH 85, Button #3)**. The following message displays:

```
PRINT STATIONS
PRESS HOLD
```

2. To print data for:
   - All stations, press HOLD.
   - One station, enter the flexible station number, then press HOLD.

   Then the following message displays and the requested information prints:

```
PRINTING STATIONS
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print Station Attributes command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

When printing the Station attributes the following data prints:

>>> *All Current Station Parameters*

```
STATION ATTRIBUTES
STA 100                                  STA 101

PAGE ACCESS            ENABLED           PAGE ACCESS            ENABLED
DO NOT DISTURB         ENABLED           DO NOT DISTURB         ENABLED
CONFERENCE             ENABLED           CONFERENCE             ENABLED
EXEC OVERRIDE          DISABLED          EXEC OVERRIDE          DISABLED
PRIVACY                ENABLED           PRIVACY                ENABLED
SYSTEM SPEED           ENABLED           SYSTEM SPEED           ENABLED
LINE QUEUING           ENABLED           LINE QUEUING           ENABLED
PREF LINE ANSWER       DISABLED          PREF LINE ANSWER       DISABLED
OFF HOOK VOICE OVER    DISABLED          OFF HOOK VOICE OVER    DISABLED
CALL FORWARD           ENABLED           CALL FORWARD           ENABLED
FORCE LCR              DISABLED          FORCE LCR              DISABLED
ACD SUPV BARGE IN      DISABLED          ACD SUPV BARGE IN      DISABLED
EXEC OVERRIDE BLOCK    DISABLED          EXEC OVERRIDE BLOCK    DISABLED
CO RING OPTIONS        MUTED RING        CO RING OPTIONS        MUTED RING
NAME AT IDLE LCD       EXT NUMBER        NAME AT IDLE LCD       EXT NUMBER
ACD ZAP TONE           DISABLED          ACD ZAP TONE           DISABLED
STATION ID             KEYSET - SP 24BTN STATION ID             KEYSET - SP 24BTN
CO LOOP POOL FLEX      DISABLED          CO LOOP POOL FLEX      DISABLED
DAY COS                1                 DAY COS                1
NIGHT COS              1                 NIGHT COS              1
SPEAKERPHONE           FULL SPEAKERPHONE SPEAKERPHONE           FULL SPEAKERPHONE
PICKUP GROUPS          1                 PICKUP GROUPS          1
PAGE ZONE              1                 PAGE ZONE              1
INTERNAL NO ANSWER     ###               INTERNAL NO ANSWER     ###
INTERNAL BUSY          ###               INTERNAL BUSY          ###
EXTERNAL NO ANSWER     ###               EXTERNAL NO ANSWER     ###
EXTERNAL BUSY          ###               EXTERNAL BUSY          ###
NO ANSWER TIMER        10                NO ANSWER TIMER        10
LINE GROUP ACCESS      1                 LINE GROUP ACCESS      1
LCR CLASS OF SERVICE   0                 LCR CLASS OF SERVICE   0
OFFHOOK PREFENCE BTN   00 ENABLED        OFFHOOK PREFENCE BTN   00 ENABLED
KEYSET MODE            INACTIVE MODE 2400 KEYSET MODE           INACTIVE MODE 2400
VOICE MAIL ID          100               VOICE MAIL ID          101
CORDLESS KEY BTN 00                      LIGHT CONTROL          NONE
BUTTONS:                                 DISPLAY LCD MSG        NONE
01D100 02D101  03D102                    CORDLESS KEY BTN 00
04D103 05D104  06D105                    BUTTONS:
07D106 08D107  09D108                    01100  02D101 03D102
10D109 11D110  12D111                    04D10  05C001 06C002
13L001 14C002  15L003                    07LP   08PL1  09CBK
16L004 17L005  18L006                    10PKU  11DND  12LQU
19LP   20PL1   21CBK                     13L001 14C002 15L003
22PKU  23DND   24LQU                     16L004 17L005 18L006
25FLA  26XFR   27SPD                     19LP   20PL1  21CBK
28CNF  29MSG   30FWD                     22PKU  23DND  24LQU
31MUT  32CPO   33MON
34HLD  35VOL   36VOL                     ... and so on through stations:
                                         100-171 = DVX^Plus II/III
                                         100-351 = DVX^Plus IV
```

***NOTE**: The button printout for the 8-button keyset displays all flexible AND fixed buttons, the same as the 24-button keyset.*

Figure 12-3: Station Attributes Printout

Print CO Port Parameters and Feature Codes

Programming Steps

1. Press the CO PORTS/CODES flexible button **(FLASH 85, Button #4)**. The following message displays:

```
PRINT CO PORTS/CODES
PRESS HOLD
```

2. To print the CO Port parameters, press the HOLD button. The following message displays:

```
PRINTING CO  PORT
```

   When the system finishes sending the requested information to the printer, a confirmation tone is heard.

Description

The Print CO Port Parameters and Feature Codes command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
CO PORT NUMBERS
01  - 01    02    03    04    05    06    07    08
02  - 09    10    11    12    13    14    15    16
03  - 17    18    19    20    21    22    23    24
04  - 25    26    27    28    29    30    31    32
05  - 33    34    35    36    37    38    39    40
06  - 41    42    43    44    45    46    47    48
07  - 49    50    51    52    53    54    55    56
08  - 57    58    59    60    61    62    63    64
09  - 65    66    67    68    69    70    71    72
10  - 73    74    75    76    77    78    79    80
11  - 81    82    83    84    85    86    87    88
12  - 89    90    91    92    93    94    95    96
13  - 97    98    99   100   101   102   103   104
14  - 105  106   107   108   109   110   111   112
15  - 113  114   115   116   117   118   119   120
16  - 121  122   123   124   125   126   127   128
17  - 129  130   131   132   133   134   135   136
18  - 137  138   139   140   141   142   143   144
```

Figure 12-4: CO Port Attributes Printout

Print Exception Tables

Programming Steps

1. Press the EXCEPT TABLES flexible button **(FLASH 85, Button #5)**. The following message displays:

```
PRINT EX TABLES
PRESS HOLD
```

2. To print the Except Tables, press the HOLD button. The following message displays:

```
PRINTING EX TABLES
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print Exception Tables command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

When printing information from the Exception Tables, the following data prints:

- Allow Table A
- Deny Table A
- Allow Table B
- Deny Table B
- Special Table 1
- Special Table 2
- Special Table 3
- Special Table 4

```
ALLOW TABLE A                          SPECIAL TABLE 1 AREA CODE
-------------                          --------------------------------
01         11                          ALLOWED OFFICE CODES
02         12
03         13
04         14
05         15                          SPECIAL TABLE 2 AREA CODE
06         16                          --------------------------------
07         17                          ALLOWED OFFICE CODES
08         18
09         19
10         20
                                       SPECIAL TABLE 3 AREA CODE
DENY TABLE A                           --------------------------------
-------------                          ALLOWED OFFICE CODES
01         06
02         07
03         08
04         09                          SPECIAL TABLE 4 HOME AREA CODE
05         10                          --------------------------------
                                       ALLOWED OFFICE CODES
ALLOW TABLE B
-------------
01         11
02         12
03         13
04         14
05         15
06         16
07         17
08         18
09         19
10         20

DENY TABLE B
-------------
01         06
02         07
03         08
04         09
05         10
```

Figure 12-5: Exception Tables Printout

Print System Speed Numbers

Programming Steps

1. Press the SYSTEM SPEED flexible button **(FLASH 85, Button #6)**. The following message displays:

```
PRINT SYS SPEED NO
PRESS HOLD
```

2. To print the System Speed bins, press the HOLD button. The following message displays:

```
PRINTING SYS SPEED NO
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The System Speed Numbers command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
SYSTEM SPEED NUMBERS
020                                 037
021                                 038
022                                 039
023                                 040
024                                 041
025                                 042
026                                 043
027                                 044
028                                 045
029                                 046
030                                 047
031                                 048
032                                 049
033                                 050
034                                 051
035                                 052
036                                 ... and so on through Speed Number 999
                                    (with expanded memory)
```

Figure 12-6: System Speed Numbers Printout

Print LCR Tables

Programming Steps

1. Press the LCR TABLES flexible button **(FLASH 85, Button #7)**. The following message displays:

```
PRINT LCR TABLES
PRESS HOLD
```

2. To print the LCR Tables, press the HOLD button. The following message displays:

```
PRINTING LCR TABLES
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print LCR Tables command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

When printing information from the LCR Tables, the following data prints:

- Exception Table
- Route List Table
- Insert/Delete Table
- Daily Time Table
- Weekly Time Table
- Toll Tables
- 6-Digit Table
- 3-Digit Table

EXCEPTION CODE TABLE

CODE ROUTE NO

ROUTE LIST TABLE

RT	TIME	COST	CO GRP	INS/DEL GRP	PR
0	1	026	1	0	1
	2	026	1	0	1
	3	026	1	0	1
	4	026	1	0	1
1	1	000	1	0	1
	2	000	1	0	1
	3	000	1	0	1
	4	000	1	0	1
2	1	010	1	0	1
	2	010	1	0	1
	3	010	1	0	1
	4	010	1	0	1
3	1	072	1	0	1
	2	072	1	0	1
	3	072	1	0	1
	4	072	1	0	1
4	1	171	1	0	1
	2	171	1	0	1
	3	171	1	0	1
	4	171	1	0	1
5	1	106	1	0	1
	2	106	1	0	1
	3	106	1	0	1
	4	106	1	0	1
6	1	277	1	0	1
	2	277	1	0	1
	3	277	1	0	1
	4	277	1	0	1

DIGIT INS/DEL TABLE

TABLE DIGITS

0	PRE	P
1	PRE	
2	PRE	P
3	PRE	P
4	PRE	P
5	PRE	P
6	PRE	P
7	PRE	P
8	PRE	P
9	PRE	P
10	PRE	P
11	PRE	P
12	PRE	P
13	PRE	P
14	PRE	P
15	PRE	P
16	PRE	P
17	PRE	P
18	PRE	P
19	PRE	P

DAILY START TIME TABLE

TABLE	TIME
1	800
2	1700
3	2300
4	####

WEEKLY SCHEDULE TABLE

START TIME	M	T	W	T	F	S	S
800	1	1	1	1	1	3	3
1700	2	2	2	2	2	3	2
2300	3	3	3	3	3	3	3
####	3	3	3	3	3	3	3

LCR ROUTE FOR 555-1212

0

6 DIGIT TABLE

AREA CODE OFFICE CODES

ROUTE NO

Figure 12-7: LCR Tables Printout

```
          3 DIGIT TABLE
          ---------------------
  CODE LEADING 1       NON-LEADING 1
     RR   PP  6         RR   PP  6
    ---------------------------------
 11   ##   ##  N          6   ##   N
200    0   11  N          1    7   N
201    0   11  N          1    7   N
202    0   11  N          1    7   N
203    0   11  N          1    7   N
204    3   11  N          1    7   N
205    0   11  N          1    7   N
206    0   11  N          1    7   N
207    0   11  N          1    7   N
208    0   11  N          1    7   N
209    0   11  N          1    7   N
210    0   11  N          1    7   N
211   ##   ##  N          1    7   N
212    0   11  N          1    7   N
213    0   11  N          1    7   N
214    0   11  N          1    7   N
215    0   11  N          1    7   N
216    0   11  N          1    7   N
217    0   11  N          1    7   N
218    0   11  N          1    7   N
219    0   11  N          1    7   N
220    0   11  N          1    7   N
221    0   11  N          1    7   N
222    0   11  N          1    7   N
223    0   11  N          1    7   N
224    0   11  N          1    7   N
225    0   11  N          1    7   N
226    0   11  N          1    7   N
227    0   11  N          1    7   N
228    0   11  N          1    7   N
229    0   11  N          1    7   N
230    0   11  N          1    7   N
231    0   11  N          1    7   N
232    0   11  N          1    7   N
233    0   11  N          1    7   N
234    0   11  N          1    7   N
235    0   11  N          1    7   N
236    0   11  N          1    7   N
237    0   11  N          1    7   N
238    0   11  N          1    7   N
239    0   11  N          1    7   N
240    0   11  N          1    7   N
241    0   11  N          1    7   N
242    0   11  N          1    7   N
243    0   11  N          1    7   N
244    0   11  N          1    7   N
245    0   11  N          1    7   N
246    0   11  N          1    7   N
247    0   11  N          1    7   N
248    0   11  N          1    7   N
249    0   11  N          1    7   N
250    0   11  N          1    7   N
251    0   11  N          1    7   N
252    0   11  N          1    7   N
253    0   11  N          1    7   N
254    0   11  N          1    7   N
255    0   11  N          1    7   N
256    0   11  N          1    7   N
257    0   11  N          1    7   N
258    0   11  N          1    7   N
259    0   11  N          1    7   N
260    0   11  N          1    7   N
261    0   11  N          1    7   N
282    0   11  N          1    7   N
283    0   11  N          1    7   N
264    0   11  N          1    7   N
265    0   11  N          1    7   N
266    0   11  N          1    7   N
267    0   11  N          1    7   N
268    0   11  N          1    7   N
269    0   11  N          1    7   N
270    0   11  N          1    7   N
271    0   11  N          1    7   N
272    0   11  N          1    7   N
273    0   11  N          1    7   N
274    0   11  N          1    7   N
275    0   11  N          1    7   N
276    0   11  N          1    7   N
277    0   11  N          1    7   N
278    0   11  N          1    7   N
279    0   11  N          1    7   N
280    0   11  N          1    7   N
281    0   11  N          1    7   N
282    0   11  N          1    7   N
283    0   11  N          1    7   N
284    0   11  N          1    7   N
285    0   11  N          1    7   N
286    0   11  N          1    7   N
287    0   11  N          1    7   N
288    0   11  N          1    7   N
289    0   11  N          1    7   N
290    0   11  N          1    7   N
291    0   11  N          1    7   N
292    0   11  N          1    7   N
293    0   11  N          1    7   N
294    0   11  N          1    7   N
295    0   11  N          1    7   N
296    0   11  N          1    7   N
297    0   11  N          1    7   N
298    0   11  N          1    7   N
299    0   11  N          1    7   N
300    0   11  N          1    7   N
301    0   11  N          1    7   N
302    0   11  N          1    7   N
303    0   11  N          1    7   N
304    0   11  N          1    7   N
305    0   11  N          1    7   N
306    3   11  N          1    7   N
307    0   11  N          1    7   N
308    0   11  N          1    7   N
309    0   11  N          1    7   N
310    0   11  N          1    7   N
311   ##   ##  N          1    7   N
312    0   11  N          1    7   N
313    0   11  N          1    7   N
314    0   11  N          1    7   N
315    0   11  N          1    7   N
316    0   11  N          1    7   N
317    0   11  N          1    7   N
```

Figure 12-8: Three-Digit Tables Printout

318	0	11	N	1	7	N	381	0	11	N	1	7	N
319	0	11	N	1	7	N	382	0	11	N	1	7	N
320	0	11	N	1	7	N	383	0	11	N	1	7	N
321	0	11	N	1	7	N	384	0	11	N	1	7	N
322	0	11	N	1	7	N	385	0	11	N	1	7	N
323	0	11	N	1	7	N	386	0	11	N	1	7	N
324	0	11	N	1	7	N	387	0	11	N	1	7	N
325	0	11	N	1	7	N	388	0	11	N	1	7	N
326	0	11	N	1	7	N	389	0	11	N	1	7	N
327	0	11	N	1	7	N	390	0	11	N	1	7	N
328	0	11	N	1	7	N	391	0	11	N	1	7	N
329	0	11	N	1	7	N	392	0	11	N	1	7	N
330	0	11	N	1	7	N	393	0	11	N	1	7	N
331	0	11	N	1	7	N	394	0	11	N	1	7	N
332	0	11	N	1	7	N	395	0	11	N	1	7	N
333	0	11	N	1	7	N	396	0	11	N	1	7	N
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336	0	11	N	1	7	N	399	0	11	N	1	7	N
337	0	11	N	1	7	N	400	0	11	N	1	7	N
338	0	11	N	1	7	N	401	0	11	N	1	7	N
339	0	11	N	1	7	N	402	0	11	N	1	7	N
340	0	11	N	1	7	N	403	3	11	N	1	7	N
341	0	11	N	1	7	N	404	0	11	N	1	7	N
342	0	11	N	1	7	N	405	0	11	N	1	7	N
343	0	11	N	1	7	N	406	0	11	N	1	7	N
344	0	11	N	1	7	N	407	0	11	N	1	7	N
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346	0	11	N	1	7	N	409	0	11	N	1	7	N
347	0	11	N	1	7	N	410	0	11	N	1	7	N
348	0	11	N	1	7	N	411	1	4	N	1	3	N
349	0	11	N	1	7	N	412	0	11	N	1	7	N
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355	0	11	N	1	7	N	418	3	11	N	1	7	N
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363	0	11	N	1	7	N	426	0	11	N	1	7	N
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366	0	11	N	1	7	N	429	0	11	N	1	7	N
367	0	11	N	1	7	N	430	0	11	N	1	7	N
368	0	11	N	1	7	N	431	0	11	N	1	7	N
369	0	11	N	1	7	N	432	0	11	N	1	7	N
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377	0	11	N	1	7	N	440	0	11	N	1	7	N
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379	0	11	N	1	7	N	442	0	11	N	1	7	N
380	0	11	N	1	7	N	443	0	11	N	1	7	N

Figure 12-8: Three-Digit Tables Printout

444	0	11	N	1	7	N	507	0	11	N	1	7	N	570	0	11	N	1	7	N
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446	0	11	N	1	7	N	509	0	11	N	1	7	N	572	0	11	N	1	7	N
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448	0	11	N	1	7	N	511	##	##	N	1	7	N	574	0	11	N	1	7	N
449	0	11	N	1	7	N	512	0	11	N	1	7	N	575	0	11	N	1	7	N
450	0	11	N	1	7	N	513	0	11	N	1	7	N	576	0	11	N	1	7	N
451	0	11	N	1	7	N	514	3	11	N	1	7	N	577	0	11	N	1	7	N
452	0	11	N	1	7	N	515	0	11	N	1	7	N	578	0	11	N	1	7	N
453	0	11	N	1	7	N	516	0	11	N	1	7	N	579	0	11	N	1	7	N
454	0	11	N	1	7	N	517	0	11	N	1	7	N	580	0	11	N	1	7	N
455	0	11	N	1	7	N	518	0	11	N	1	7	N	581	0	11	N	1	7	N
456	0	11	N	1	7	N	519	3	11	N	1	7	N	582	0	11	N	1	7	N
457	0	11	N	1	7	N	520	0	11	N	1	7	N	583	0	11	N	1	7	N
458	0	11	N	1	7	N	521	0	11	N	1	7	N	584	0	11	N	1	7	N
459	0	11	N	1	7	N	522	0	11	N	1	7	N	585	0	11	N	1	7	N
460	0	11	N	1	7	N	523	0	11	N	1	7	N	586	0	11	N	1	7	N
461	0	11	N	1	7	N	524	0	11	N	1	7	N	587	0	11	N	1	7	N
462	0	11	N	1	7	N	525	0	11	N	1	7	N	588	0	11	N	1	7	N
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464	0	11	N	1	7	N	527	0	11	N	1	7	N	590	0	11	N	1	7	N
465	0	11	N	1	7	N	528	0	11	N	1	7	N	591	0	11	N	1	7	N
466	0	11	N	1	7	N	529	0	11	N	1	7	N	592	0	11	N	1	7	N
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472	0	11	N	1	7	N	535	0	11	N	1	7	N	598	0	11	N	1	7	N
473	0	11	N	1	7	N	536	0	11	N	1	7	N	599	0	11	N	1	7	N
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475	0	11	N	1	7	N	538	0	11	N	1	7	N	601	0	11	N	1	7	N
476	0	11	N	1	7	N	539	0	11	N	1	7	N	602	0	11	N	1	7	N
477	0	11	N	1	7	N	540	0	11	N	1	7	N	603	0	11	N	1	7	N
478	0	11	N	1	7	N	541	0	11	N	1	7	N	604	0	11	N	1	7	N
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482	0	11	N	1	7	N	545	0	11	N	1	7	N	608	0	11	N	1	7	N
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486	0	11	N	1	7	N	549	0	11	N	1	7	N	612	0	11	N	1	7	N
487	0	11	N	1	7	N	550	0	11	N	1	7	N	613	0	11	N	1	7	N
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489	0	11	N	1	7	N	552	0	11	N	1	7	N	615	0	11	N	1	7	N
490	0	11	N	1	7	N	553	0	11	N	1	7	N	616	0	11	N	1	7	N
491	0	11	N	1	7	N	554	0	11	N	1	7	N	617	0	11	N	1	7	N
492	0	11	N	1	7	N	555	0	11	N	1	7	N	618	0	11	N	1	7	N
493	0	11	N	1	7	N	556	0	11	N	1	7	N	619	0	11	N	1	7	N
494	0	11	N	1	7	N	557	0	11	N	1	7	N	620	0	11	N	1	7	N
495	0	11	N	1	7	N	558	0	11	N	1	7	N	621	0	11	N	1	7	N
496	0	11	N	1	7	N	559	0	11	N	1	7	N	622	0	11	N	1	7	N
497	0	11	N	1	7	N	560	0	11	N	1	7	N	623	0	11	N	1	7	N
498	0	11	N	1	7	N	561	0	11	N	1	7	N	624	0	11	N	1	7	N
499	0	11	N	1	7	N	562	0	11	N	1	7	N	625	0	11	N	1	7	N
500	0	11	N	1	7	N	563	0	11	N	1	7	N	626	0	11	N	1	7	N
501	0	11	N	1	7	N	564	0	11	N	1	7	N	627	0	11	N	1	7	N
502	0	11	N	1	7	N	565	0	11	N	1	7	N	628	0	11	N	1	7	N
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504	0	11	N	1	7	N	567	0	11	N	1	7	N	630	0	11	N	1	7	N
505	0	11	N	1	7	N	568	0	11	N	1	7	N	631	0	11	N	1	7	N
506	3	11	N	1	7	N	569	0	11	N	1	7	N	632	0	11	N	1	7	N

Figure 12-8: Three-Digit Tables Printout

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574	0	11	N		1	7	N		637	0	11	N		1	7	N
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576	0	11	N		1	7	N		639	0	11	N		1	7	N
577	0	11	N		1	7	N		640	0	11	N		1	7	N
578	0	11	N		1	7	N		641	0	11	N		1	7	N
579	0	11	N		1	7	N		642	0	11	N		1	7	N
580	0	11	N		1	7	N		643	0	11	N		1	7	N
581	0	11	N		1	7	N		644	0	11	N		1	7	N
582	0	11	N		1	7	N		645	0	11	N		1	7	N
583	0	11	N		1	7	N		646	0	11	N		1	7	N
584	0	11	N		1	7	N		647	0	11	N		1	7	N
585	0	11	N		1	7	N		648	0	11	N		1	7	N
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606	0	11	N		1	7	N		669	0	11	N		1	7	N
607	0	11	N		1	7	N		670	0	11	N		1	7	N
608	0	11	N		1	7	N		671	0	11	N		1	7	N
609	0	11	N		1	7	N		672	0	11	N		1	7	N
610	0	11	N		1	7	N		673	0	11	N		1	7	N
611	##	##	N		1	7	N		674	0	11	N		1	7	N
612	0	11	N		1	7	N		675	0	11	N		1	7	N
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614	0	11	N		1	7	N		677	0	11	N		1	7	N
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617	0	11	N		1	7	N		680	0	11	N		1	7	N
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620	0	11	N		1	7	N		683	0	11	N		1	7	N
621	0	11	N		1	7	N		684	0	11	N		1	7	N
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624	0	11	N		1	7	N		687	0	11	N		1	7	N
625	0	11	N		1	7	N		688	0	11	N		1	7	N
626	0	11	N		1	7	N		689	0	11	N		1	7	N
627	0	11	N		1	7	N		690	0	11	N		1	7	N
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629	0	11	N		1	7	N		692	0	11	N		1	7	N
630	0	11	N		1	7	N		693	0	11	N		1	7	N
631	0	11	N		1	7	N		694	0	11	N		1	7	N
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Figure 12-8: Three-Digit Tables Printout

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698	0	11	N		1	7	N		761	0	11	N		1	7	N
699	0	11	N		1	7	N		762	0	11	N		1	7	N
700	0	11	N		1	7	N		763	0	11	N		1	7	N
701	0	11	N		1	7	N		764	0	11	N		1	7	N
702	0	11	N		1	7	N		765	0	11	N		1	7	N
703	0	11	N		1	7	N		766	0	11	N		1	7	N
704	0	11	N		1	7	N		767	0	11	N		1	7	N
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706	4	11	N		1	7	N		769	0	11	N		1	7	N
707	0	11	N		1	7	N		770	0	11	N		1	7	N
708	0	11	N		1	7	N		771	0	11	N		1	7	N
709	3	11	N		1	7	N		772	0	11	N		1	7	N
710	0	11	N		1	7	N		773	0	11	N		1	7	N
711	##	##	N		1	7	N		774	0	11	N		1	7	N
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713	0	11	N		1	7	N		776	0	11	N		1	7	N
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716	0	11	N		1	7	N		779	0	11	N		1	7	N
717	0	11	N		1	7	N		780	0	11	N		1	7	N
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719	0	11	N		1	7	N		782	0	11	N		1	7	N
720	0	11	N		1	7	N		783	0	11	N		1	7	N
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724	0	11	N		1	7	N		787	0	11	N		1	7	N
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726	0	11	N		1	7	N		789	0	11	N		1	7	N
727	0	11	N		1	7	N		790	0	11	N		1	7	N
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734	0	11	N		1	7	N		797	0	11	N		1	7	N
735	0	11	N		1	7	N		798	0	11	N		1	7	N
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738	0	11	N		1	7	N		801	0	11	N		1	7	N
739	0	11	N		1	7	N		802	0	11	N		1	7	N
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742	0	11	N		1	7	N		805	0	11	N		1	7	N
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744	0	11	N		1	7	N		807	3	11	N		1	7	N
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748	0	11	N		1	7	N		811	##	##	N		1	7	N
749	0	11	N		1	7	N		812	0	11	N		1	7	N
750	0	11	N		1	7	N		813	0	11	N		1	7	N
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752	0	11	N		1	7	N		815	0	11	N		1	7	N
753	0	11	N		1	7	N		816	0	11	N		1	7	N
754	0	11	N		1	7	N		817	0	11	N		1	7	N
755	0	11	N		1	7	N		818	0	11	N		1	7	N
756	0	11	N		1	7	N		819	0	11	N		1	7	N
757	0	11	N		1	7	N		820	0	11	N		1	7	N
758	0	11	N		1	7	N		821	0	11	N		1	7	N

Figure 12-8: Three-Digit Tables Printout

822	0	11	N	1	7	N	885	0	11	N	1	7	N
823	0	11	N	1	7	N	886	0	11	N	1	7	N
824	0	11	N	1	7	N	887	0	11	N	1	7	N
825	0	11	N	1	7	N	888	0	11	N	1	7	N
826	0	11	N	1	7	N	889	0	11	N	1	7	N
827	0	11	N	1	7	N	890	0	11	N	1	7	N
828	0	11	N	1	7	N	891	0	11	N	1	7	N
829	0	11	N	1	7	N	892	0	11	N	1	7	N
830	0	11	N	1	7	N	893	0	11	N	1	7	N
831	0	11	N	1	7	N	894	0	11	N	1	7	N
832	0	11	N	1	7	N	895	0	11	N	1	7	N
833	0	11	N	1	7	N	896	0	11	N	1	7	N
834	0	11	N	1	7	N	897	0	11	N	1	7	N
835	0	11	N	1	7	N	898	0	11	N	1	7	N
836	0	11	N	1	7	N	899	0	11	N	1	7	N
837	0	11	N	1	7	N	900	0	11	N	1	7	N
838	0	11	N	1	7	N	901	0	11	N	1	7	N
839	0	11	N	1	7	N	902	3	11	N	1	7	N
840	0	11	N	1	7	N	903	0	11	N	1	7	N
841	0	11	N	1	7	N	904	0	11	N	1	7	N
842	0	11	N	1	7	N	905	4	11	N	1	7	N
843	0	11	N	1	7	N	906	0	11	N	1	7	N
844	0	11	N	1	7	N	907	0	11	N	1	7	N
845	0	11	N	1	7	N	908	0	11	N	1	7	N
846	0	11	N	1	7	N	909	0	11	N	1	7	N
847	0	11	N	1	7	N	910	0	11	N	1	7	N
848	0	11	N	1	7	N	911	1	4	N	1	3	N
849	0	11	N	1	7	N	912	0	11	N	1	7	N
850	0	11	N	1	7	N	913	0	11	N	1	7	N
851	0	11	N	1	7	N	914	0	11	N	1	7	N
852	0	11	N	1	7	N	915	0	11	N	1	7	N
853	0	11	N	1	7	N	916	0	11	N	1	7	N
854	0	11	N	1	7	N	917	0	11	N	1	7	N
855	0	11	N	1	7	N	918	0	11	N	1	7	N
856	0	11	N	1	7	N	919	0	11	N	1	7	N
857	0	11	N	1	7	N	920	0	11	N	1	7	N
858	0	11	N	1	7	N	921	0	11	N	1	7	N
859	0	11	N	1	7	N	922	0	11	N	1	7	N
860	0	11	N	1	7	N	923	0	11	N	1	7	N
861	0	11	N	1	7	N	924	0	11	N	1	7	N
862	0	11	N	1	7	N	925	0	11	N	1	7	N
863	0	11	N	1	7	N	926	0	11	N	1	7	N
864	0	11	N	1	7	N	927	0	11	N	1	7	N
865	0	11	N	1	7	N	928	0	11	N	1	7	N
866	0	11	N	1	7	N	929	0	11	N	1	7	N
867	0	11	N	1	7	N	930	0	11	N	1	7	N
868	0	11	N	1	7	N	931	0	11	N	1	7	N
869	0	11	N	1	7	N	932	0	11	N	1	7	N
870	0	11	N	1	7	N	933	0	11	N	1	7	N
871	0	11	N	1	7	N	934	0	11	N	1	7	N
872	0	11	N	1	7	N	935	0	11	N	1	7	N
873	0	11	N	1	7	N	936	0	11	N	1	7	N
874	0	11	N	1	7	N	937	0	11	N	1	7	N
875	0	11	N	1	7	N	938	0	11	N	1	7	N
876	0	11	N	1	7	N	939	0	11	N	1	7	N
877	0	11	N	1	7	N	940	0	11	N	1	7	N
878	0	11	N	1	7	N	941	0	11	N	1	7	N
879	0	11	N	1	7	N	942	0	11	N	1	7	N
880	0	11	N	1	7	N	943	0	11	N	1	7	N
881	0	11	N	1	7	N	944	0	11	N	1	7	N
882	0	11	N	1	7	N	945	0	11	N	1	7	N
883	0	11	N	1	7	N	946	0	11	N	1	7	N
884	0	11	N	1	7	N	947	0	11	N	1	7	N

Figure 12-8: Three-Digit Tables Printout

948	0	11	N		1	7	N		974	0	11	N		1	7	N
949	0	11	N		1	7	N		975	0	11	N		1	7	N
950	0	11	N		1	7	N		976	0	11	N		1	7	N
951	0	11	N		1	7	N		977	0	11	N		1	7	N
952	0	11	N		1	7	N		978	0	11	N		1	7	N
953	0	11	N		1	7	N		979	0	11	N		1	7	N
954	0	11	N		1	7	N		980	0	11	N		1	7	N
955	0	11	N		1	7	N		981	0	11	N		1	7	N
956	0	11	N		1	7	N		982	0	11	N		1	7	N
957	0	11	N		1	7	N		983	0	11	N		1	7	N
958	0	11	N		1	7	N		984	0	11	N		1	7	N
959	0	11	N		1	7	N		985	0	11	N		1	7	N
960	0	11	N		1	7	N		986	0	11	N		1	7	N
961	0	11	N		1	7	N		987	0	11	N		1	7	N
962	0	11	N		1	7	N		988	0	11	N		1	7	N
963	0	11	N		1	7	N		989	0	11	N		1	7	N
964	0	11	N		1	7	N		990	0	11	N		1	7	N
965	0	11	N		1	7	N		991	0	11	N		1	7	N
966	0	11	N		1	7	N		992	0	11	N		1	7	N
967	0	11	N		1	7	N		993	0	11	N		1	7	N
968	0	11	N		1	7	N		994	0	11	N		1	7	N
969	0	11	N		1	7	N		995	0	11	N		1	7	N
970	0	11	N		1	7	N		996	0	11	N		1	7	N
971	0	11	N		1	7	N		997	0	11	N		1	7	N
972	0	11	N		1	7	N		998	0	11	N		1	7	N
973	0	11	N		1	7	N		999	0	11	N		1	7	N

Figure 12-8: Three-Digit Tables Printout

Print Entire System Database

Programming Steps

1. Press the ENTIRE SYSTEM flexible button **(FLASH 85, Button #8)**. The following message displays:

```
PRINT DATABASE
PRESS HOLD
```

2. To print the entire database, press the HOLD button. The display updates to indicate what portion of the database is printing.
3. When the system finishes sending the database to the printer, a confirmation tone sounds.

Description

The Print System Database command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. Printing the entire database takes a while to print. The database is printed in the following order:

1. All System Parameters
2. All CO Line Programming
3. All CO Ports
4. All Station Attributes
5. All Station Ports
6. Exception Tables (Allow/Deny/Special)
7. System Speed Dial Numbers
8. ICLID Ringing Assignment Table
9. Directory Dialing Table
10. Hunt Group Parameters (Bins 9020–9999)
11. LCR Tables
12. ICLID Parameters and Table(s)
13. ACD* or UCD Group Parameters
14. Voice Mail Group Parameters
15. DID Translation Table
16. DID-TIE Timers
17. Verified Account Codes Table

**This feature is available with optional software.*

Print ICLID - DID Tables

Programming Steps

1. Press the ICLID-DID TABLES flexible button **(FLASH 85, Button #9)**. The following message displays:

```
PRINT ICLID-DID
PRESS HOLD
```

2. To print the ICLID-DID Table(s), press the HOLD button. The following messages display:

```
PRINTING ICLID-DID
```

```
PRINTING ROUTE
```

```
PRINTING ICLID TRANS NO
```

3. When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print ICLID-DID Tables command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. When printing the ICLID-DID Table(s), the following data prints:

- ICLID Features
- ICLID Translation Table
- ICLID Unanswered Call Table
- ICLID Answered Call Table
- ICLID Ringing Assignments Table
- DID Translation Table

```
ICLID       NAME        BAUD        PORT        ICLID UNANSWERED CALL TABLE
                                                ---------------------------
N           Y           9600        1                    NONE
ICLID TRANSLATION TABLE                         ICLID ANSWERED CALL TABLE
-----------------------                         ---------------------------
                                                         NONE
ENTRY       ROUTE       NAME        NUMBER      ROUTE RING ASSIGNMENTS
600         ##                      .           ----------------------
601         ##                      .           00
602         ##                      .              NONE
603         ##                      .
604         ##                      .           01
605         ##                      .              NONE
606         ##                      .
607         ##                      .           02
608         ##                      .              NONE
609         ##                      .
610         ##                      .           03
611         ##                      .              NONE
612         ##                      .
613         ##                      .           04
614         ##                      .              NONE
615         ##                      .
616         ##                      .           05
617         ##                      .              NONE
618         ##                      .
619         ##                      .           06
620         ##                      .              NONE
621         ##                      .
622         ##                      .           07
623         ##                      .              NONE
624         ##                      .
625         ##                      .           08
626         ##                      .              NONE
627         ##                      .
628         ##                      .           09
629         ##                      .              NONE
630         ##                      .
631         ##                      .           10
632         ##                      .              NONE
633         ##                      .
634         ##                      .           11
635         ##                      .              NONE
636         ##                      .
637         ##                      .           12
638         ##                      .              NONE

... and so on through 799
```

Figure 12-9: ICLID Translation Tables Printout

```
13                                      106
   NONE                                    106A

14                                      107
   NONE                                    107A

15                                      108
   NONE                                    108A

16                                      109
   NONE                                    109A

17                                      110
   NONE                                    110A

18                                      ...
   NONE                                     ...

19                                      130
   NONE                                    130A

20                                      ...
   NONE                                     ...

21                                      150
   NONE                                    150A

... and so on through 99                ...
                                           ...
100
   100A                                 170
                                           170A
101
   101A                                 ...
                                           ...
102
   102A                                 190
                                           190A
103
   103A                                 ...
                                           ...
104
   104A                                 210
                                           210A
105
   105A                                 ... and so on through 252
```

Figure 12-9: ICLID Translation Tables Printout

DID TRANSLATION TABLE

ENTRY	ROUTE	NUMBER	NAME
000	100	0000000	
001	101	0000001	
002	102	0000002	
003	103	0000003	
004	104	0000004	
005	105	0000005	
006	106	0000006	
007	107	0000007	
008	108	0000008	
009	109	0000009	
010	110	0000010	
011	111	0000011	
012	112	0000012	
013	113	0000013	
014	114	0000014	
015	115	0000015	
016	116	0000016	
017	117	0000017	
018	118	0000018	
019	119	0000019	
020	120	0000020	
021	121	0000021	
022	122	0000022	
023	123	0000023	
024	124	0000024	
025	125	0000025	
026	126	0000026	
027	127	0000027	
028	128	0000028	
029	129	0000029	
030	130	0000030	
031	131	0000031	
032	132	0000032	
033	133	0000033	
034	134	0000034	
035	135	0000035	
036	136	0000036	
037	137	0000037	
038	138	0000038	
039	139	0000039	
040	140	0000040	
041	141	0000041	
042	142	0000042	
043	143	0000043	
044	144	0000044	
045	145	0000045	
046	146	0000046	
047	147	0000047	
048	148	0000048	
049	149	0000049	
050	150	0000050	
051	151	0000051	
052	152	0000052	
053	153	0000053	
054	154	0000054	
055	155	0000055	
056	156	0000056	
057	157	0000057	
058	158	0000058	
059	159	0000059	
060	160	0000060	
061	161	0000061	
062	162	0000062	
063	163	0000063	
064	164	0000064	
065	165	0000065	
066	166	0000066	
067	167	0000067	
068	168	0000068	
069	169	0000069	
070	170	0000070	
071	171	0000071	
072	172	0000072	
073	173	0000073	
074	174	0000074	
075	175	0000075	
076	176	0000076	
077	177	0000077	
078	178	0000078	
079	179	0000079	
080	180	0000080	
081	181	0000081	
082	182	0000082	
083	183	0000083	
084	184	0000084	
085	185	0000085	
086	186	0000086	
087	187	0000087	
088	188	0000088	
089	189	0000089	
090	190	0000090	
091	191	0000091	
092	192	0000092	
093	193	0000093	
094	194	0000094	
095	195	0000095	
096	196	0000096	
097	197	0000097	
098	198	0000098	
099	199	0000099	
100	100	0000100	
101	101	0000101	
102	102	0000102	
103	103	0000103	
104	104	0000104	
105	105	0000105	
106	106	0000106	
107	107	0000107	
108	108	0000108	
109	109	0000109	
110	110	0000110	
111	111	0000111	
112	112	0000112	
113	113	0000113	
114	114	0000114	
115	115	0000115	
116	116	0000116	
117	117	0000117	
118	118	0000118	
119	119	0000119	
120	120	0000120	
121	121	0000121	
122	122	0000122	
123	123	0000123	
124	124	0000124	
125	125	0000125	
126	126	0000126	

Figure 12-10: DID Translation Tables Printout

127	127	0000127	189	189	0000189
128	128	0000128	190	190	0000190
129	129	0000129	191	191	0000191
130	130	0000130	192	192	0000192
131	131	0000131	193	193	0000193
132	132	0000132	194	194	0000194
133	133	0000133	195	195	0000195
134	134	0000134	196	196	0000196
135	135	0000135	197	197	0000197
136	136	0000136	198	198	0000198
137	137	0000137	199	199	0000199
138	138	0000138	200	100	0000200
139	139	0000139	201	101	0000201
140	140	0000140	202	102	0000202
141	141	0000141	203	103	0000203
142	142	0000142	204	104	0000204
143	143	0000143	205	105	0000205
144	144	0000144	206	106	0000206
145	145	0000145	207	107	0000207
146	146	0000146	208	108	0000208
147	147	0000147	209	109	0000209
148	148	0000148	210	110	0000210
149	149	0000149	211	111	0000211
150	150	0000150	212	112	0000212
151	151	0000151	213	113	0000213
152	152	0000152	214	114	0000214
153	153	0000153	215	115	0000215
154	154	0000154	216	116	0000216
155	155	0000155	217	117	0000217
156	156	0000156	218	118	0000218
157	157	0000157	219	119	0000219
158	158	0000158	220	120	0000220
159	159	0000159	221	121	0000221
160	160	0000160	222	122	0000222
161	161	0000161	223	123	0000223
162	162	0000162	224	124	0000224
163	163	0000163	225	125	0000225
164	164	0000164	226	126	0000226
165	165	0000165	227	127	0000227
166	166	0000166	228	128	0000228
167	167	0000167	229	129	0000229
168	168	0000168	230	130	0000230
169	169	0000169	231	131	0000231
170	170	0000170	232	132	0000232
171	171	0000171	233	133	0000233
172	172	0000172	234	134	0000234
173	173	0000173	235	135	0000235
174	174	0000174	236	136	0000236
175	175	0000175	237	137	0000237
176	176	0000176	238	138	0000238
177	177	0000177	239	139	0000239
178	178	0000178	240	140	0000240
179	179	0000179	241	141	0000241
180	180	0000180	242	142	0000242
181	181	0000181	243	143	0000243
182	182	0000182	244	144	0000244
183	183	0000183	245	145	0000245
184	184	0000184	246	146	0000246
185	185	0000185	247	147	0000247
186	186	0000186	248	148	0000248
187	187	0000187	249	149	0000249
188	188	0000188	250	150	0000250

Figure 12-10: DID Translation Tables

251	151	0000251	315	115	0000315
252	152	0000252	316	116	0000316
253	153	0000253	317	117	0000317
254	154	0000254	318	118	0000318
255	155	0000255	319	119	0000319
256	156	0000256	320	120	0000320
257	157	0000257	321	121	0000321
258	158	0000258	322	122	0000322
259	159	0000259	323	123	0000323
260	160	0000260	324	124	0000324
261	161	0000261	325	125	0000325
262	162	0000262	326	126	0000326
263	163	0000263	327	127	0000327
264	164	0000264	328	128	0000328
265	165	0000265	329	129	0000329
266	166	0000266	330	130	0000330
267	167	0000267	331	131	0000331
268	168	0000268	332	132	0000332
269	169	0000269	333	133	0000333
270	170	0000270	334	134	0000334
271	171	0000271	335	135	0000335
272	172	0000272	336	136	0000336
273	173	0000273	337	137	0000337
274	174	0000274	338	138	0000338
275	175	0000275	339	139	0000339
276	176	0000276	340	140	0000340
277	177	0000277	341	141	0000341
278	178	0000278	342	142	0000342
279	179	0000279	343	143	0000343
280	180	0000280	344	144	0000344
281	181	0000281	345	145	0000345
282	182	0000282	346	146	0000346
283	183	0000283	347	147	0000347
284	184	0000284	348	148	0000348
285	185	0000285	349	149	0000349
286	186	0000286	350	150	0000350
287	187	0000287	351	151	0000351
288	188	0000288	352	152	0000352
289	189	0000289	353	153	0000353
290	190	0000290	354	154	0000354
291	191	0000291	355	155	0000355
292	192	0000292	356	156	0000356
293	193	0000293	357	157	0000357
294	194	0000294	358	158	0000358
295	195	0000295	359	159	0000359
296	196	0000296	360	160	0000360
297	197	0000297	361	161	0000361
298	198	0000298	362	162	0000362
299	199	0000299	363	163	0000363
300	100	0000300	364	164	0000364
301	101	0000301	365	165	0000365
302	102	0000302	366	166	0000366
303	103	0000303	367	167	0000367
304	104	0000304	368	168	0000368
305	105	0000305	369	169	0000369
306	106	0000306	370	170	0000370
307	107	0000307	371	171	0000371
308	108	0000308	372	172	0000372
309	109	0000309	373	173	0000373
310	110	0000310	374	174	0000374
311	111	0000311	375	175	0000375
312	112	0000312	376	176	0000376
313	113	0000313	377	177	0000377
314	114	0000314	378	178	0000378

Figure 12-10: DID Translation Tables

379	179	0000379	442	142	0000442
380	180	0000380	443	143	0000443
381	181	0000381	444	144	0000444
382	182	0000382	445	145	0000445
383	183	0000383	446	146	0000446
384	184	0000384	447	147	0000447
385	185	0000385	448	148	0000448
386	186	0000386	449	149	0000449
387	187	0000387	450	150	0000450
388	188	0000388	451	151	0000451
389	189	0000389	452	152	0000452
390	190	0000390	453	153	0000453
391	191	0000391	454	154	0000454
392	192	0000392	455	155	0000455
393	193	0000393	456	156	0000456
394	194	0000394	457	157	0000457
395	195	0000395	458	158	0000458
396	196	0000396	459	159	0000459
397	197	0000397	460	160	0000460
398	198	0000398	461	161	0000461
399	199	0000399	462	162	0000462
400	100	0000400	463	163	0000463
401	101	0000401	464	164	0000464
402	102	0000402	465	165	0000465
403	103	0000403	466	166	0000466
404	104	0000404	467	167	0000467
405	105	0000405	468	168	0000468
406	106	0000406	469	169	0000469
407	107	0000407	470	170	0000470
408	108	0000408	471	171	0000471
409	109	0000409	472	172	0000472
410	110	0000410	473	173	0000473
411	111	0000411	474	174	0000474
412	112	0000412	475	175	0000475
413	113	0000413	476	176	0000476
414	114	0000414	477	177	0000477
415	115	0000415	478	178	0000478
416	116	0000416	479	179	0000479
417	117	0000417	480	180	0000480
418	118	0000418	481	181	0000481
419	119	0000419	482	182	0000482
420	120	0000420	483	183	0000483
421	121	0000421	484	184	0000484
422	122	0000422	485	185	0000485
423	123	0000423	486	186	0000486
424	124	0000424	487	187	0000487
425	125	0000425	488	188	0000488
426	126	0000426	489	189	0000489
427	127	0000427	490	190	0000490
428	128	0000428	491	191	0000491
429	129	0000429	492	192	0000492
430	130	0000430	493	193	0000493
431	131	0000431	494	194	0000494
432	132	0000432	495	195	0000495
433	133	0000433	496	196	0000496
434	134	0000434	497	197	0000497
435	135	0000435	498	198	0000498
436	136	0000436	499	199	0000499
437	137	0000437	500	100	0000500
438	138	0000438	501	101	0000501
439	139	0000439	502	102	0000502
440	140	0000440	503	103	0000503
441	141	0000441	504	104	0000504

Figure 12-10: DID Translation Tables

505	105	0000505	569	169	0000569
506	106	0000506	570	170	0000570
507	107	0000507	571	171	0000571
508	108	0000508	572	172	0000572
509	109	0000509	573	173	0000573
510	110	0000510	574	174	0000574
511	111	0000511	575	175	0000575
512	112	0000512	576	176	0000576
513	113	0000513	577	177	0000577
514	114	0000514	578	178	0000578
515	115	0000515	579	179	0000579
516	116	0000516	580	180	0000580
517	117	0000517	581	181	0000581
518	118	0000518	582	182	0000582
519	119	0000519	583	183	0000583
520	120	0000520	584	184	0000584
521	121	0000521	585	185	0000585
522	122	0000522	586	186	0000586
523	123	0000523	587	187	0000587
524	124	0000524	588	188	0000588
525	125	0000525	589	189	0000589
526	126	0000526	590	190	0000590
527	127	0000527	591	191	0000591
528	128	0000528	592	192	0000592
529	129	0000529	593	193	0000593
530	130	0000530	594	194	0000594
531	131	0000531	595	195	0000595
532	132	0000532	596	196	0000596
533	133	0000533	597	197	0000597
534	134	0000534	598	198	0000598
535	135	0000535	599	199	0000599
536	136	0000536	600	100	0000600
537	137	0000537	601	101	0000601
538	138	0000538	602	102	0000602
539	139	0000539	603	103	0000603
540	140	0000540	604	104	0000604
541	141	0000541	605	105	0000605
542	142	0000542	606	106	0000606
543	143	0000543	607	107	0000607
544	144	0000544	608	108	0000608
545	145	0000545	609	109	0000609
546	146	0000546	610	110	0000610
547	147	0000547	611	111	0000611
548	148	0000548	612	112	0000612
549	149	0000549	613	113	0000613
550	150	0000550	614	114	0000614
551	151	0000551	615	115	0000615
552	152	0000552	616	116	0000616
553	153	0000553	617	117	0000617
554	154	0000554	618	118	0000618
555	155	0000555	619	119	0000619
556	156	0000556	620	120	0000620
557	157	0000557	621	121	0000621
558	158	0000558	622	122	0000622
559	159	0000559	623	123	0000623
560	160	0000560	624	124	0000624
561	161	0000561	625	125	0000625
562	162	0000562	626	126	0000626
563	163	0000563	627	127	0000627
564	164	0000564	628	128	0000628
565	165	0000565	629	129	0000629
566	166	0000566	630	130	0000630
567	167	0000567	631	131	0000631
568	168	0000568	632	132	0000632

Figure 12-10: DID Translation Tables

633	133	0000633	697	197	0000697
634	134	0000634	698	198	0000698
635	135	0000635	699	199	0000699
636	136	0000636	700	100	0000700
637	137	0000637	701	101	0000701
638	138	0000638	702	102	0000702
639	139	0000639	703	103	0000703
640	140	0000640	704	104	0000704
641	141	0000641	705	105	0000705
642	142	0000642	706	106	0000706
643	143	0000643	707	107	0000707
644	144	0000644	708	108	0000708
645	145	0000645	709	109	0000709
646	146	0000646	710	110	0000710
647	147	0000647	711	111	0000711
648	148	0000648	712	112	0000712
649	149	0000649	713	113	0000713
650	150	0000650	714	114	0000714
651	151	0000651	715	115	0000715
652	152	0000652	716	116	0000716
653	153	0000653	717	117	0000717
654	154	0000654	718	118	0000718
655	155	0000655	719	119	0000719
656	156	0000656	720	120	0000720
657	157	0000657	721	121	0000721
658	158	0000658	722	122	0000722
659	159	0000659	723	123	0000723
660	160	0000660	724	124	0000724
661	161	0000661	725	125	0000725
662	162	0000662	726	126	0000726
663	163	0000663	727	127	0000727
664	164	0000664	728	128	0000728
665	165	0000665	729	129	0000729
666	166	0000666	730	130	0000730
667	167	0000667	731	131	0000731
668	168	0000668	732	132	0000732
669	169	0000669	733	133	0000733
670	170	0000670	734	134	0000734
671	171	0000671	735	135	0000735
672	172	0000672	736	136	0000736
673	173	0000673	737	137	0000737
674	174	0000674	738	138	0000738
675	175	0000675	739	139	0000739
676	176	0000676	740	140	0000740
677	177	0000677	741	141	0000741
678	178	0000678	742	142	0000742
679	179	0000679	743	143	0000743
680	180	0000680	744	144	0000744
681	181	0000681	745	145	0000745
682	182	0000682	746	146	0000746
683	183	0000683	747	147	0000747
684	184	0000684	748	148	0000748
685	185	0000685	749	149	0000749
686	186	0000686	750	150	0000750
687	187	0000687	751	151	0000751
688	188	0000688	752	152	0000752
689	189	0000689	753	153	0000753
690	190	0000689	754	154	0000754
691	191	0000691	755	155	0000755
692	192	0000692	756	156	0000756
693	193	0000693	757	157	0000757
694	194	0000694	758	158	0000758
695	195	0000695	759	159	0000759
696	196	0000696	760	160	0000760

Figure 12-10: DID Translation Tables

761	161	0000761	824	124	0000824
762	162	0000762	825	125	0000825
763	163	0000763	826	126	0000826
764	164	0000764	827	127	0000827
765	165	0000765	828	128	0000828
766	166	0000766	829	129	0000829
767	167	0000767	830	130	0000830
768	168	0000768	831	131	0000831
769	169	0000769	832	132	0000832
770	170	0000770	833	133	0000833
771	171	0000771	834	134	0000834
772	172	0000772	835	135	0000835
773	173	0000773	836	136	0000836
774	174	0000774	837	137	0000837
775	175	0000775	838	138	0000838
776	176	0000776	839	139	0000839
777	177	0000777	840	140	0000840
778	178	0000778	841	141	0000841
779	179	0000779	842	142	0000842
780	180	0000780	843	143	0000843
781	181	0000781	844	144	0000844
782	182	0000782	845	145	0000845
783	183	0000783	846	146	0000846
784	184	0000784	847	147	0000847
785	185	0000785	848	148	0000848
786	186	0000786	849	149	0000849
787	187	0000787	850	150	0000850
788	188	0000788	851	151	0000851
789	189	0000789	852	152	0000852
790	190	0000790	853	153	0000853
791	191	0000791	854	154	0000854
792	192	0000792	855	155	0000855
793	193	0000793	856	156	0000856
794	194	0000794	857	157	0000857
795	195	0000795	858	158	0000858
796	196	0000796	859	159	0000859
797	197	0000797	860	160	0000860
798	198	0000798	861	161	0000861
799	199	0000799	862	162	0000862
800	100	0000800	863	163	0000863
801	101	0000801	864	164	0000864
802	102	0000802	865	165	0000865
803	103	0000803	866	166	0000866
804	104	0000804	867	167	0000867
805	105	0000805	868	168	0000868
806	106	0000806	869	169	0000869
807	107	0000807	870	170	0000870
808	108	0000808	871	171	0000871
809	109	0000809	872	172	0000872
810	110	0000810	873	173	0000873
811	111	0000811	874	174	0000874
812	112	0000812	875	175	0000875
813	113	0000813	876	176	0000876
814	114	0000814	877	177	0000877
815	115	0000815	878	178	0000878
816	116	0000816	879	179	0000879
817	117	0000817	880	180	0000880
818	118	0000818	881	181	0000881
819	119	0000819	882	182	0000882
820	120	0000820	883	183	0000883
821	121	0000821	884	184	0000884
822	122	0000822	885	185	0000885
823	123	0000823	886	186	0000886

Figure 12-10: DID Translation Tables

887	187	0000887	944	144	0000944
888	188	0000888	945	145	0000945
889	189	0000889	946	146	0000946
890	190	0000890	947	147	0000947
891	191	0000891	948	148	0000948
892	192	0000892	949	149	0000949
893	193	0000893	950	150	0000950
894	194	0000894	951	151	0000951
895	195	0000895	952	152	0000952
896	196	0000896	953	153	0000953
897	197	0000897	954	154	0000954
898	198	0000898	955	155	0000955
899	199	0000899	956	156	0000956
900	100	0000900	957	157	0000957
901	101	0000901	958	158	0000958
902	102	0000902	959	159	0000959
903	103	0000903	960	160	0000960
904	104	0000904	961	161	0000961
905	105	0000905	962	162	0000962
906	106	0000906	963	163	0000963
907	107	0000907	964	164	0000964
908	108	0000908	965	165	0000965
909	109	0000909	966	166	0000966
910	110	0000910	967	167	0000967
911	111	0000911	968	168	0000968
912	112	0000912	969	169	0000969
913	113	0000913	970	170	0000970
914	114	0000914	971	171	0000971
915	115	0000915	972	172	0000972
916	116	0000916	973	173	0000973
917	117	0000917	974	174	0000974
918	118	0000918	975	175	0000975
919	119	0000919	976	176	0000976
920	120	0000920	977	177	0000977
921	121	0000921	978	178	0000978
922	122	0000922	979	179	0000979
923	123	0000923	980	180	0000980
924	124	0000924	981	181	0000981
925	125	0000925	982	182	0000982
926	126	0000926	983	183	0000983
927	127	0000927	984	184	0000984
928	128	0000928	985	185	0000985
929	129	0000929	986	186	0000986
930	130	0000930	987	187	0000987
931	131	0000931	988	188	0000988
932	132	0000932	989	189	0000989
933	133	0000933	990	190	0000990
934	134	0000934	991	191	0000991
935	135	0000935	992	192	0000992
936	136	0000936	993	193	0000993
937	137	0000937	994	194	0000994
938	138	0000938	995	195	0000995
939	139	0000939	996	196	0000996
940	140	0000940	997	197	0000997
941	141	0000941	998	198	0000998
942	142	0000942	999	199	0000999
943	143	0000943			

Figure 12-10: DID Translation Tables

Print Directory Dial Table Parameters

Programming Steps

1. Press the DIRECTORY DIAL TABLE flexible button **(FLASH 85, Button #10)**. The following message displays:

```
PRINT DIR - DIAL
PRESS HOLD
```

2. To print the Directory Dialing Table parameters, press the HOLD button. The following message displays:

```
PRINTING DIR - DIAL
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print Directory Dialing Table command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. This is an example of the Directory Dialing Table database printout.

LST	BIN	NAME	049	149
---	---		050	150
000	100		051	151
001	101		052	152
002	102		053	153
003	103		054	154
004	104		055	155
005	105		056	156
006	106		057	157
007	107		058	158
008	108		059	159
009	109		060	160
010	110		061	161
011	111		062	162
012	112		063	163
013	113		064	164
014	114		065	165
015	115		066	166
016	116		067	167
017	117		068	168
018	118		069	169
019	119		070	170
020	120		071	171
021	121		072	172
022	122		073	173
023	123		074	174
024	124		075	175
025	125		076	176
026	126		077	177
027	127		078	178
028	128		079	179
029	129		080	180
030	130		081	181
031	131		082	182
032	132		083	183
033	133		084	184
034	134		085	185
035	135		086	186
036	136		087	187
037	137		088	188
038	138		089	189
041	141		090	190
042	142		093	193
043	143		094	194
044	144		095	195
045	145		096	196
046	146		097	197
047	147		098	198
048	148		099	199

Figure 12-11: Directory Dialing Table Printout

Print Hunt Group Parameters

Programming Steps

1. Press the HUNT GROUPS flexible button **(FLASH 85, Button #11)**. The following displays:

```
PRINT HUNT GROUP
PRESS HOLD
```

2. To print data for Hunt Group Parameters, press the HOLD button. The following displays:

```
PRINTING HUNT GROUP
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print Hunt Group command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
HUNT GROUPS                          RAN HUNT GROUPS
-----------                          ---------------
HG 0..450  PILOT RING ONE            HG 8..458  PILOT RING ONE
HG 1..451  PILOT RING ONE            HG 9..459  PILOT RING ONE
HG 2..452  PILOT RING ONE            HG10..460  PILOT RING ONE
HG 3..453  PILOT RING ONE            HG11..461  PILOT RING ONE
HG 4..454  PILOT RING ONE
HG 5..455  PILOT RING ONE
HG 6..456  PILOT RING ONE
HG 7..457  PILOT RING ONE
```

Figure 12-12: Hunt Group Parameters Printout

Print ACD / UCD Group Parameters

Programming Steps

1. Press the ACD or UCD GROUPS flexible button **(FLASH 85, Button #12)**. The following displays:

```
PRINT ACD GROUP
PRESS HOLD
```

2. To print data for the ACD or UCD Group Parameters, press the HOLD button. The following displays:

```
PRINTING ACD GROUP
```

When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print ACD/UCD Group command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. The following represents an example of the ACD or UCD Group Parameters database printout.

ACD	IQ Thrshold	Wrapup Time	Overflow Timer	Call Factor
550	0	4	60	0
551	0	4	60	0
552	0	4	60	0
553	0	4	60	0
554	0	4	60	0
555	0	4	60	0
556	0	4	60	0
557	0	4	60	0
558	0	4	60	0
559	0	4	60	0
560	0	4	60	0
561	0	4	60	0
562	0	4	60	0
563	0	4	60	0
564	0	4	60	0
565	0	4	60	0

ACD Timers

RING	MIT	OVER	WRAP	NAT	NAR	FRT
60	60	60	4	0	300	5

Announcement Table

Table	Type	Index	Time
1	#	###	###
2	#	###	###
3	#	###	###
4	#	###	###
5	#	###	###
6	#	###	###
7	#	###	###
8	#	###	###

ACD SMDR Reporting

CO	ICM	EVT	I/O	BAUD
N	N	N	1	9600

Figure 12-13: ACD Group Parameters Printout

Print Voice Mail Group Parameters

Programming Steps

1. Press the VOICE MAIL GROUP flexible button **(FLASH 85, Button #13)**. The following message displays:

```
PRINT VM GROUP
PRESS HOLD
```

2. To print data for Voice Mail Group Parameters, press the HOLD button. The following message displays:

```
PRINTING VM GROUP
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print Voice Mail Group command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device. When printing the VM Group Parameters, the following data prints:

- Voice Mail Group Parameters
- Voice Mail Outpulsing Table (including the disconnect table)
- Voice Mail Options

```
VM   ALT   LEV   RET   STN#
---------------------------
440         0##   1
441         ###   #
442         ###   #
443         ###   #
444         ###   #
445         ###   #
446         ###   #
447         ###   #

VOICE MAIL OUT TABLE
--------------------
TABLE
IDX  PREFIX    SUFFIX
 0     P7E
 1     P7E       *E
 2
 3
 4
 5
 6
 7               2E
VOICE MAIL CO DISCONNECT SIGNAL

APPLY IN-BAND DIGITS TO CO CALLS
        Y

ALLOW FORWARD TO VM GROUP
        Y
VM BROKER CALL
        Y
```

```
Mailbox Table
-------------
Index Group  ID
  1    440
  2    440
  3    440
  4    440
  5    440
  6    440
  7    440
  8    440
  9    440
  10   440
  11   440
  12   440
  13   440
  14   440
  15   440
  16   440
  17   440
  18   440
  19   440
  20   440
  ..   ...
  ..   ...
 240   440
 241   440
 242   440
 243   440
 244   440
 245   440
 246   440
 ...   ...
 ...   ...
 255   440
```

Figure 12-14: Voice Mail Group Parameters Printout

Print DID-TIE Parameters

Programming Steps

1. Press the DID-TIE PARAMETERS flexible button **(FLASH 85, Button #14)**. The following message displays:

```
PRINT DID/TIE TMRS
PRESS HOLD
```

2. To print the DID-TIE Parameters, press the HOLD button. The following message displays:

```
PRINTING DID/TIE TMRS
```

   When the system has finished sending the requested information to the printer, confirmation tone sounds.

Description

The Print DID-TIE command dumps the entire database as a permanent record which can serve as a hard copy of the database. The system baud rate must match that of the printer or receiving device.

When printing the DID-TIE Timers, the following data is printed:

- DID Parameters and Timers
- TIE Line Parameters and Timers

```
DID SIGNALING - WINK
DID DIGITS - 3

TIE SIGNALING - WINK
DID INC SIGNALING - DTMF
TIE INC SIGNALING - DTMF
T1 INC SIGNALING - DTMF
```

Figure 12-15: DID-TIE Parameters Printout

Print Verified Account Codes

Programming Steps

1. Press the VERIFIED ACCT CODES flexible button **(FLASH 85, Button #15)**. The following message displays:

```
PRINT ACCT CODES
PRESS HOLD
```

2. To print the VERIFIED ACCT CODES, press the HOLD button. The following message displays:

```
PRINTING ACCT CODES
```

   When the system finishes sending the requested information to the printer, a confirmation tone sounds.

Description

The Print Verified Account Codes command dumps the entire database as a permanent record which can serve as a hardcopy of the database. The system baud rate must match that of the printer or receiving device.

```
ACCOUNT CODE TABLE
ENTRY   COS    DGTS
-----   ---    ----
00      ##
01      ##
02      ##
03      ##
04      ##
05      ##
06      ##
07      ##
08      ##
09      ##
10      ##
11      ##          26      ##
12      ##          27      ##
13      ##          28      ##
14      ##          29      ##
15      ##          30      ##
16      ##          31      ##
17      ##          32      ##
18      ##          33      ##
19      ##          34      ##
20      ##          35      ##
21      ##          36      ##
22      ##          37      ##
23      ##          38      ##
24      ##          39      ##
25      ##          40      ##
                    ... and so on through 249
```

Figure 12-16: Verified Account Codes Printout

Print ISDN Parameters

Programming Steps

1. Press the ISDN PARAMETERS flexible button **(FLASH 85, Button #16)**. The following message displays:

```
PRINT ISDN TMRS
PRESS HOLD
```

2. To print the ISDN Parameters, press the HOLD button. The following message displays:

```
PRINTING ISDN TMRS
```

   When the system has finished sending the requested information to the printer, confirmation tone sounds.

Description

The Print ISDN command dumps the entire database as a permanent record which can serve as a hard copy of the database. The system baud rate must match that of the printer or receiving device.

When printing the ISDN Timers, the following data is printed:

- ISDN Parameters and Timers
- ISDN Line Parameters and Timers

```
ISDN SIGNALING - WINK
ISDN DIGITS - 3

ISDN SIGNALING - WINK
ISDN INC SIGNALING - DTMF
ISDN INC SIGNALING - DTMF
ISDN INC SIGNALING - DTMF
```

Figure 12-17: ISDN Parameters Printout

A Networking Systems

This appendix contains detailed information about how to network two or more *DVX^{PLUS} II/III/IV* systems.

General Description

Networked telephone switches can be installed in one building or miles apart; however, each call appears as though it is an intercom call. The use of ISDN, specifically Primary Rate Interface (PRI), is used to create a star topology which has a "Hub" as a central point connecting to as many as five "Node" switches. The Hub system is capable of interfacing one centralized voice mail that can easily be accessed by each node system.

When centralized voice mail is used, it is easy to integrate and allows each node system to make an intercom-type call to access their voice mailboxes. For centralized voice mail, use the Pathfinder system.

Supported Features

- Allows for partial PRIBs in clusters of four COs at a time
- 4-digit dialing between all Nodes
- DSS/BLF
- Intercom-type calling between Nodes
- Call forwarding between Nodes
- Paging between Nodes
- Call transfer with caller ID passing between Nodes
- Centralized voice mail capability
- Directory dialing between Nodes
- Leading digit
- Direct access mailbox buttons per voice mail group
- Multiple mailboxes per key station/digital telephone
- Centralized LCR
- Centralized CO ring assignments
- DID routing between Nodes

Capacities

A Hub or an individual Node cannot have a voice mail of 24 ports or greater, or one that handles 1000 calls per hour, because it will likely cause a bottleneck.

Although a primary function of networking systems together is cost savings, it is mandatory that each Node has local access to emergency 911 calling.

Hardware

The Networking interface requires the following boards:

- Primary Rate Interface Boards (PRIB)
- Channel Service Units (CSU), when KSUs are greater than 50 feet apart.

Standards

ISDN

Primary Rate Interface (PRI) Board

Vodavi has created a proprietary ISDN interface that ties two or more Vodavi telephone systems together using PRI cards. The use of PRI cards allows Vodavi to convert the 24th channel into a "D" channel. That channel passes the call processing information, while leaving 23 channels for voice processing.

This PRI must be running error-free prior to attempting any networking of systems.

Each Node site requires a link to the Hub site using "Star-type" topography (refer to *Figure A-1: Network Configuration Diagram*). The maximum number of connections possible in the *DVX^{Plus}II/III/IV* is ten. A call will not hop more than twice (go through more than two switches) before reaching its destination. If a centralized voice mail is in the configuration, it will be installed at the Hub.

If KSUs are more than 50 feet apart or they are in different buildings, a CSU is required at both ends. If KSUs are less than 50 feet apart and they are in the same building, CSUs are not required.

In a DSU/CSU, the 24th channel must be identified as a "D" (data) channel.

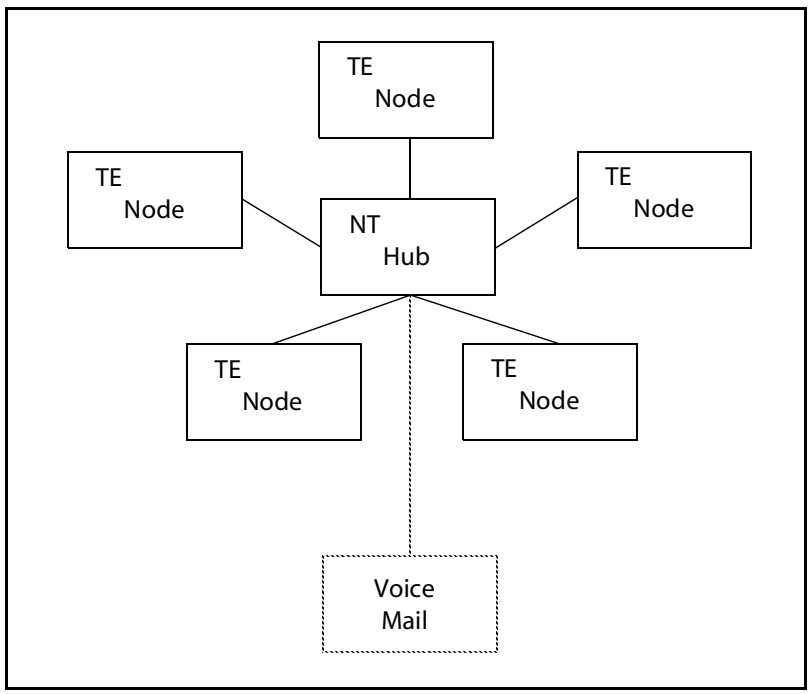


Figure A-1: Network Configuration Diagram

Terminal Emulation (TE) and Node Transmission (NT) are explained in *Designing a Network*.

Designing a Network

When more than one telephone switch is connected together, it is considered a network in its simplest form. One system is considered the Main or Hub system (NT). The other is the secondary or Node System (TE). There can only be one Hub (NT) and it cannot be attached directly to another Hub (NT). Therefore, a Hub can only be connected to a node (TE). Similarly, a node (TE) can only be connected to a Hub (NT) and it cannot be connected to another node (TE). The key to managing a network is being able to maintain a clear flow of traffic and making sure there is no bottleneck of calls at the Hub.

Network Termination (NT)

Generally, the Hub is the largest system and it has the most connections to the PSTN interfaces. Because of this, it is more likely to be overloaded with calls and it needs to be monitored closely to maintain free-flowing calls and information. A bottleneck will interfere with voice quality.

Terminal Equipment (TE)

A Node is generally a smaller less-active switch. However, it is just as important to monitor each Node for processing speeds to eliminate calling problems. Because calls can make multiple hops, it is important that all switches have an adequate number of interfaces to eliminate bottlenecks.

Connecting to Remote Devices

A loop button is required to call between Nodes. If a station wants to establish a conference between Nodes, it requires a second loop button. Therefore, it is recommended that each station have at least two loop buttons.

Smart Trunks

When a call is passed from one KSU to another KSU and back to the original KSU, the second loop will drop after the call is answered. For example, a call is presented to System A, the caller is transferred to System B, and then the call is forwarded back to System A. When the call is answered in System A, the CO loop from System A to System B is dropped and the call is only active in System A.

The Numbering Plan

Numbering must be carefully considered when planning a network. Each Node must have a unique number to eliminate any conflicts. However, the entire network must have a basic layout plan to eliminate duplicating extension numbering.

The cornerstone to networking is the “Networking Tables”. The system compares every call that comes from within the system with the internal numbering plan first (Flash 52 programming). Then the system checks the range of extensions in the first entry of the networking table (Flash 16 programming). If a match is found, the call is made.

If a match is not found, the system continues checking the next entry of the networking table until a match is found or until it has examined each entry. If a match is not found within any of the entries, an error tone sounds.

Each Network has its own "line group", which is its address. For example, *Table A-1* shows that a call to extension 3500 will ring the switch that is connected in line group 2.

The top portion (system configurations) and bottom portion (Networking tables) of *Figure A-11* are integrated to show how the networking table setup affects information passing in a two-node system.

Figure A-12 is an example of a five-node system.

Table A-1: Networking Tables - Example 1

Table Number	CO Group	Station Range		System Association	Status Check
		FROM	TO	External	
01	00	1000	1999		
02	02	2000	2999		
03	03	3000	3999		
04	04	4000	4500		
05	05	4501	4599		
: : :					
16					
NOTE -- CO Group 00 = internal numbering plan					

Table A-2: Networking Tables - Example 2

Table Number	CO Group	Station Range		System Association	Status Check
		FROM	TO	External	
01	00	1100	1199		
02	02	2100	2199		
03	03	3100	3352		
04	04	4100	4250		
: : :					
16					
NOTE -- CO Group 00 = internal numbering plan					

Extension Numbering

Valid extension range numbering is between 1000 and 8999. Numbering conflicts must be avoided. For example, if stations 100, 200, and 300 exist, the numbers 1000, 2000, and 3000 are conflicts. This is because the system detects the first three digits as validly assigned. Therefore, the system is not prepared to accept a fourth digit.

Feature Code Numbering

Feature codes must be unique numbers that pose no conflicts. Therefore, the feature code numbering plan cannot conflict with station numbering. For example, a station numbered 4400 is a direct conflict to the default voice mail group "440".

The "#" key can not be a leading digit when networking systems together. Pound (#) is a reserved digit, for the termination of specialized features such as LCR.

Leading Digit

Enabling the leading digit feature quickly changes station and feature codes by placing a digit in front of the current 3-digit codes. For example, several Nodes can have stations 100-351. To make station numbers unique, the leading digit can be programmed as 1, 2, 3, etc. to result in station numbers of 1000-1351, 2000-2351, 3000-3351, etc. Feature codes will then also have a leading digit assigned. For example, feature code 700 will result in feature codes of 1700, 2700, 3700, etc.

Network Installation

Network Distance

If KSUs are greater than 50 feet apart, connect them through TELCO using a point to point T-1 (*Refer to Table A-3* and the *note on page A-4*). If each KSU is less than 50 feet apart and there is no TELCO connection, then connect them using a straight-through connection (refer to *Figure A-2* and *Table A-5*). Connections between Nodes and either a Hub or to TELCO always use the straight-through connection.

Table A-3: TELCO to Hub Interconnect Diagram - Pin Connections

TELCO	Hub (NT)
RJ45	DB15 Female Pin #
1-->	<--11
2-->	<--3
4-->	<-- 9
5-->	<--1

Table A-4: TELCO to Node Interconnect Diagram - Pin Connections

TELCO	Node (TE)
RJ45	DB15 Female Pin #
1-->	<--9
2-->	<--1
4-->	<-- 11
5-->	<--3

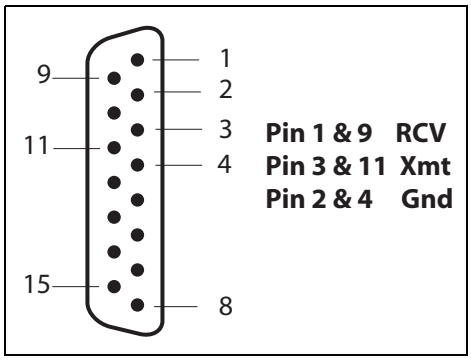


Figure A-2: PRI Connector

Table A-5: Straight-Through System Interconnect Diagram - Pin Connections

System 1	System 2
DB15 Female Pin #	DB15 Female Pin #
1-->	<--1
9-->	<--9
2 -->	<-- 2
3 -->	<--3
11-->	<-- 11
4 -->	<-- 4

When TELCO connection is required, use standard PRI pinouts. Refer to the telephone system Installation Manual.

When using a point to point network connection, T-1 is required.

ISDN and T-1 Clocking

When using PRIB or T-1 cards in one KSU, specific settings are important for proper clocking. Popping, crackling, dropped calls, and one-way transmission are usually attributed to the clocking not being synchronized correctly.

It is preferable to use a TELCO PRI to establish clocking for the Network (*Figure A-4*). If no TELCO PRI or T-1 is available, then clocking will be controlled by the Hub system for the entire Network (*Figure A-5*). The following examples are provided to illustrate proper clocking settings under given scenarios.

The following figures use a symbol to represent the clock switch position on a PRI or T1 card. When the top of the symbol is black, it represents the switch in the Up or Enable position. When the bottom of the symbol is black, it represents the switch in the Down or Disable position.

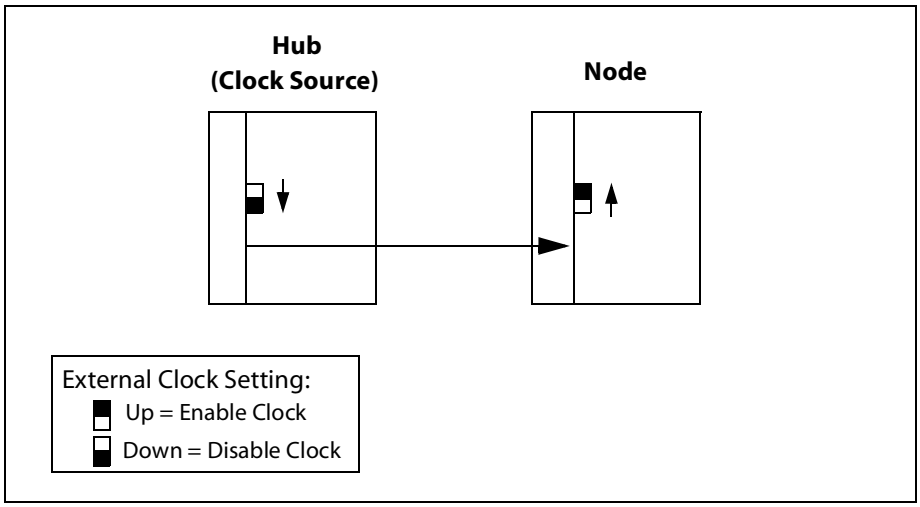


Figure A-3: Point-to-Point PRIs

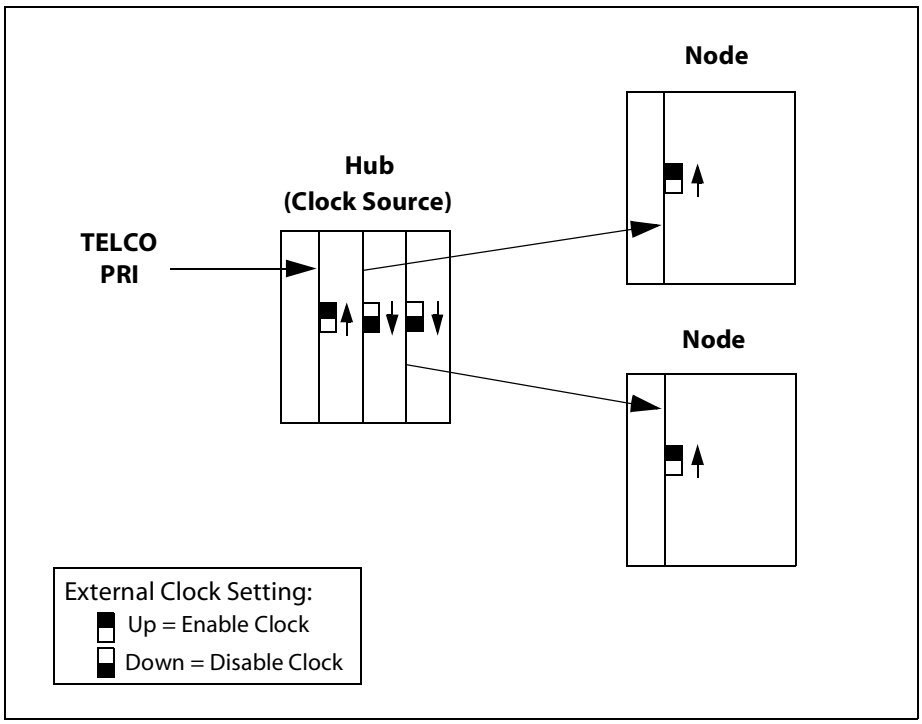


Figure A-4: TELCO PRI Connection to the Hub

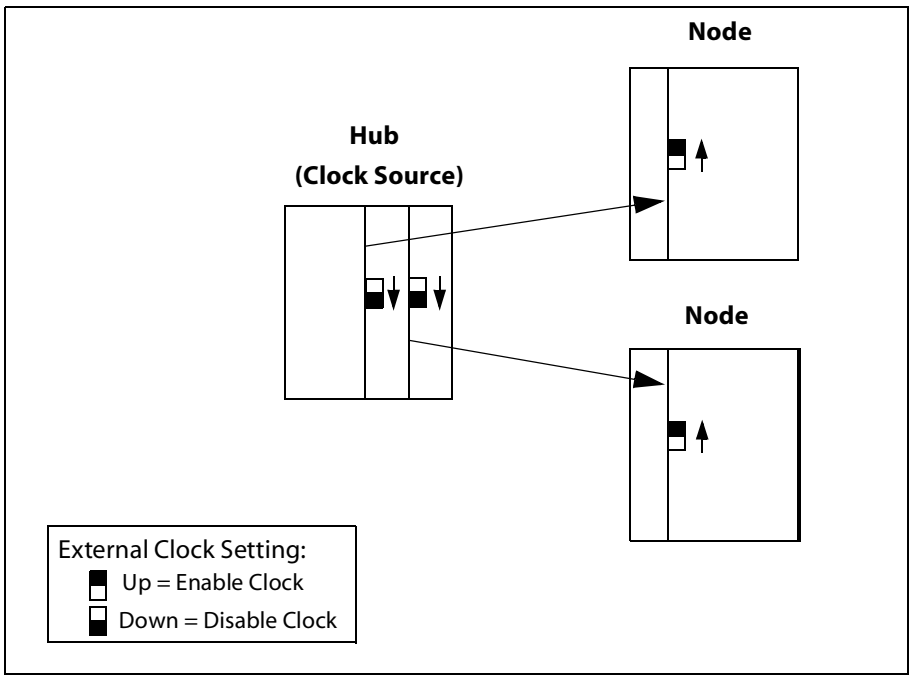


Figure A-5: No TELCO Connection

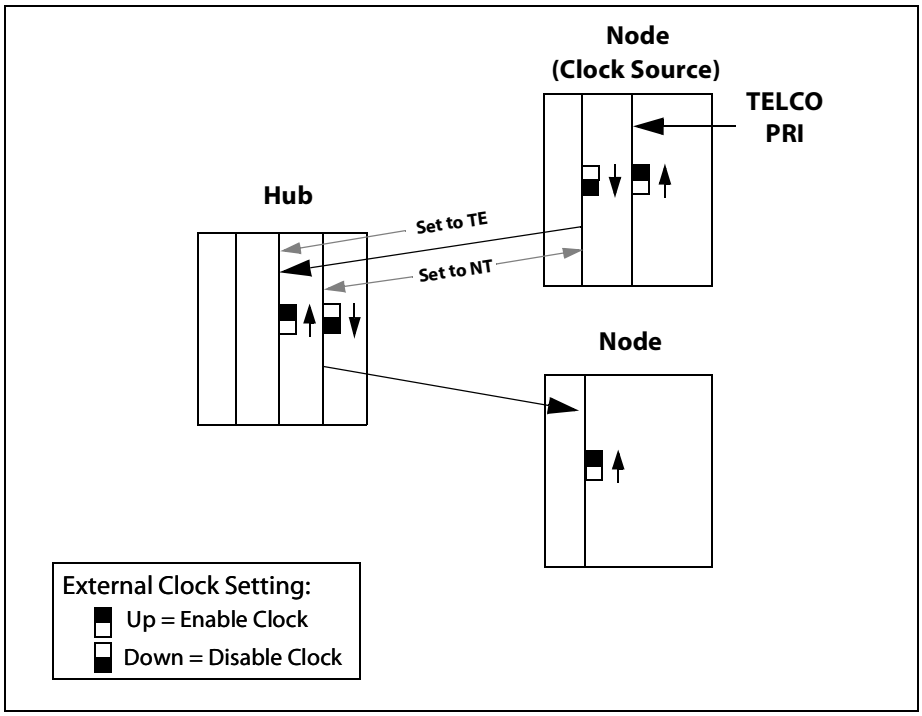


Figure A-6: TELCO PRI Connection To a Node

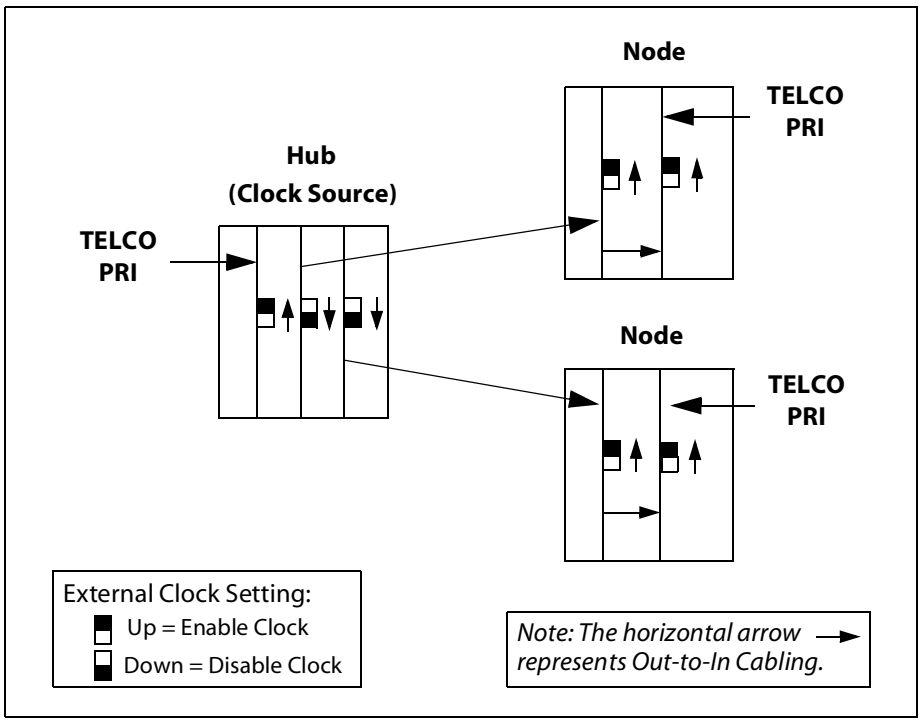


Figure A-7: All Systems have TELCO PRI Connection

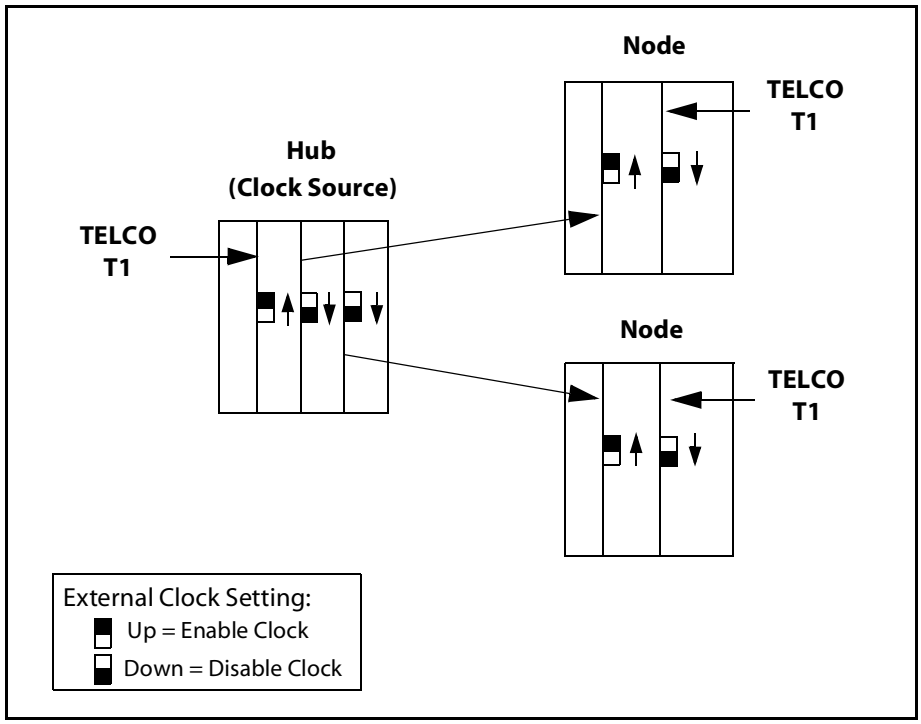


Figure A-8: All Systems have TELCO T1 Connection

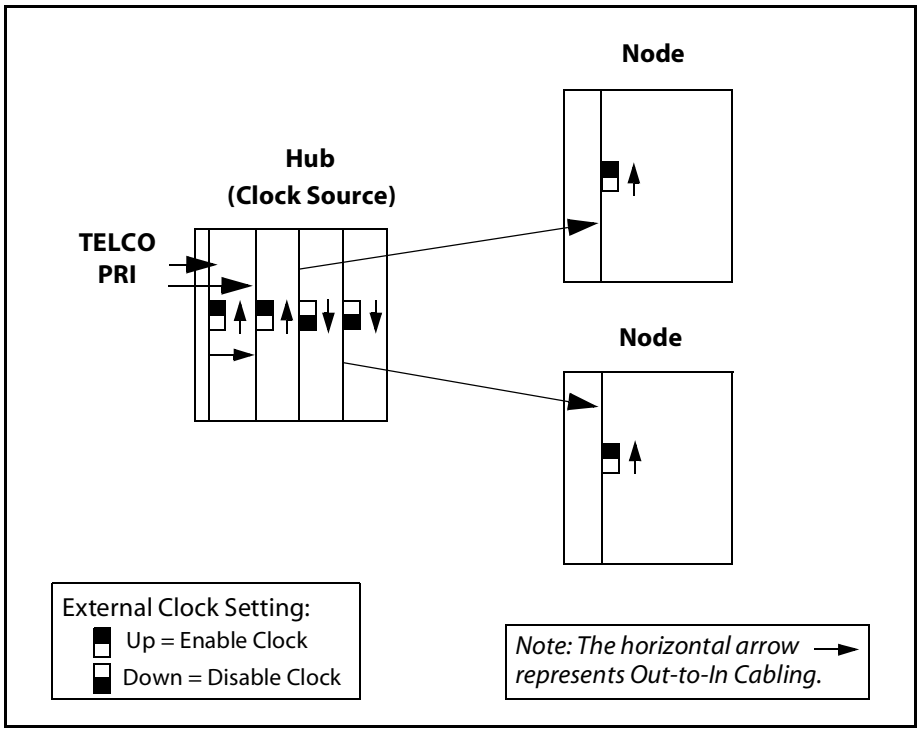


Figure A-9: Two PRIs from TELCO to Nodes

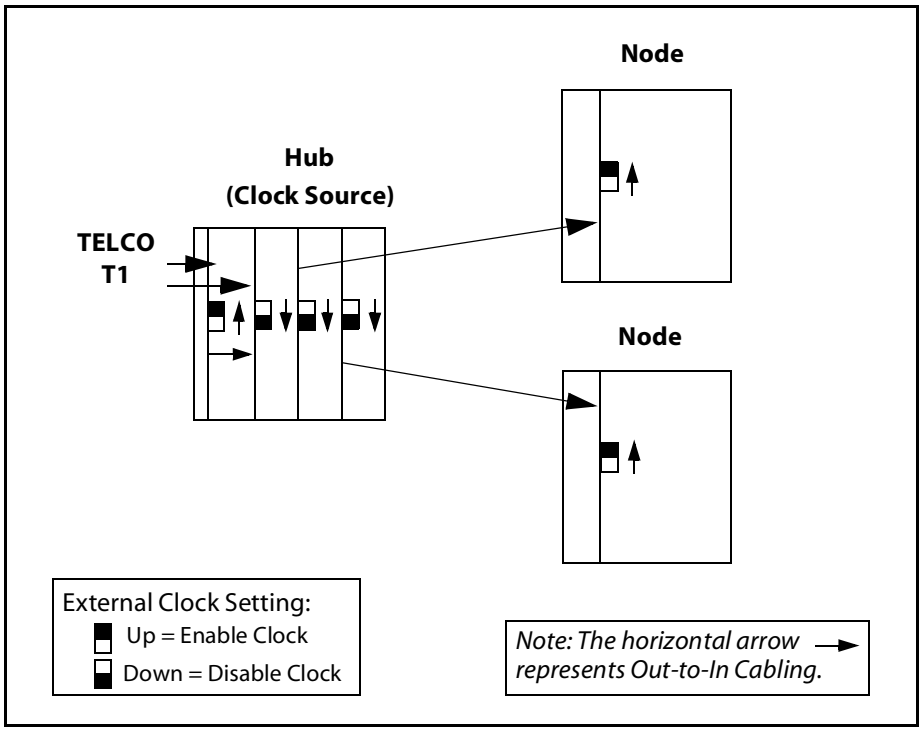


Figure A-10: Two T1s in Hub Connected to PRI in Nodes

Programming

Programming must be done with a 24-button display telephone or with WinDBA. It is recommended that WinDBA be used for network programming. The following sections describe programming steps that pertain to networking. Each section assumes that you have already entered system programming. The following sections provide a detailed description of programming steps necessary for networking. A Quick Start procedure is provided at the end of this document as an aid to understanding the flow of programming.

Node/Hub Identification Programming

Description

In networking, there must be a central Hub. All communication within the network must be linked via the Hub. The Hub should be identified as system 1. Each Node should be identified with its own unique number between 2 and 16. Networking requires 4-digit dialing. Complete the following programming steps to specify numbers that identify Hub/Nodes and to specify the leading digit to be used for dialing.

Programming Steps

1. Press **FLASH** and dial **[09]**. The following message displays:

```
SYSTEM PARAMETERS
ENTER BUTTON NUMBER
```

2. Press Button #8. The following message displays:

```
SYSTEM NODE          1-16
01
```

3. Dial a valid number (01-16) to identify the system by number.

The Hub should be identified as system 1. Each Node should be identified with its own unique number between 2 and 16.

4. Press HOLD to save the entry.
5. Press Button #9. The following message displays:

```
LEADING DIGIT        0-8
0
```

6. Dial a valid number (0-8) to identify the desired leading digit.
7. Press HOLD to save the entry.

Only 3-digit codes will be changed to include a leading digit, e.g., 2-digit codes such as group call pickup (#0) are not affected.

Networking Tables Programming

Description

The Networking Table is used to route calls between systems. It identifies the table number (01-16), the CO Group (00-23), the range of station numbers (from xxxx to xxxx), which card sends DSS/BLF information to an external location (programming for external BLF is only done on the Hub system), and whether the Status Check is enabled or disabled.

The Table Number establishes the sequence that the system uses to search for a match to the number being called. The system searches based on table number 01 parameters. If no match is found, then the system searches based on table number 02 parameters. This process continues until a match is found and the call is placed, or no match is found and the caller receives an error tone.

An automatic Status Check is designed to cope with unique network configurations that have a system's extension range that overlaps another system's extension range. Status Check screens a call to determine if the station number is assigned within the network. If the extension number is unassigned, the call is not forwarded to another system in the network and the caller receives an error tone.

EXAMPLE OF THE ISSUE -- System A has station numbers 6005, 6006, 6007, 6024 and 6048; System B has station numbers 6008, 6009, 6010, 6025, and 6049. Station number 6022 is not assigned. In this example, both Systems have overlapping station ranges. A problem can occur when an incoming call for station number 6022 enters System A. System A checks to determine if this is an assigned number within System A. Since it is not an assigned number within System A, the call is forwarded to System B. System B completes the same process, then forwards the call back to System A, etc.

You should use the disabled setting for Status Check if your network has no overlapping ranges. To maximize routing efficiency for a system with overlapping station ranges, it is recommended that you enable the remote system's Status Check.

Networking Tables For Nodes (refer to Figure A-11 and Figure A-12)

Table Number 01 of a Node's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the Node's extension range

Table Number 02 of a Node's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = entire network's extension range

Table Number 03 of a Node's networking tables should include:

- CO Group = CO Group Number 00
- Extension Range = complete range of possible extension numbers (i.e., 1000-8999)

The system will screen and process calls in the following sequence:

If the call matches an extension specified in Flash 52 programming, the call will be connected within the same system.

-or-

If the call matches an extension associated with Table Number 02, the call will be routed to the appropriate remote device.

-or-

If the call matches an extension associated with Table Number 03, the caller will receive an error tone.

Networking Tables For the Hub (refer to Figure A-11 and Figure A-12)

Table Number 01 of a Hub's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the Hub's range of extension numbers

Table Number 02 of a Hub's networking tables should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the first Node's range of extension numbers
- External Busy Lamp Field Slots = numbers identifying PRIB slot locations associated with each Node in the network, other than the Node being defined

Table Numbers greater than 02 of a Hub's networking tables (one Table Number to define each Node) should include:

- CO Group = valid CO Group Number 01-23
- Extension Range = the Node's range of extension numbers
- External Busy Lamp Field Slots = numbers identifying PRIB slot locations associated with each Node in the network, other than the Node being defined

The last Table Number of a Hub's networking tables should include:

- CO Group = CO Group Number 00
- Extension Range = complete range of possible extension numbers (i.e., 1000-8999)

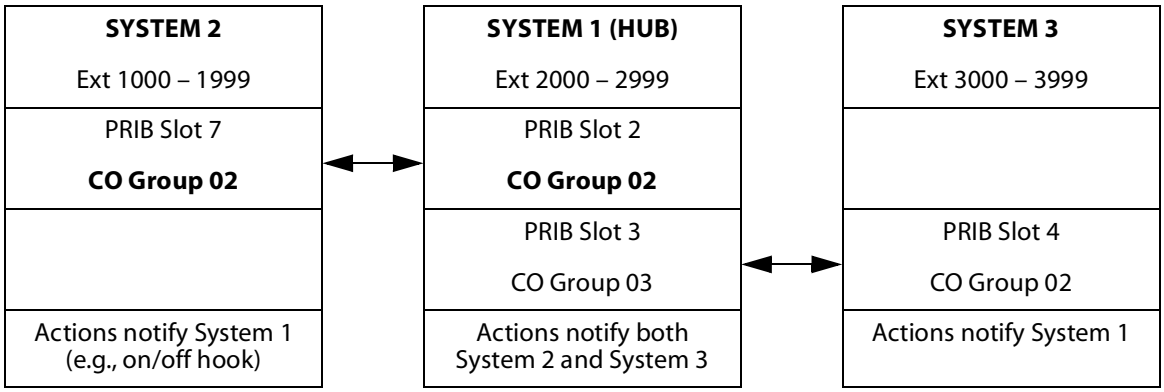


Table Number	CO Group	Extn Range	Ext BLF Slot
01	00	1000 - 1999	---
02	02	1000 - 3999	---
03	00	1000 - 8999	---
		…. to ….	---
		…. to ….	
16		…. to ….	---

Table Number	CO Group	Extn Range	Ext BLF Slot
01	00	2000 - 2999	--
02	02	1000 - 1999	3
03	03	3000 - 3999	2
04	00	1000 - 8999	---
		…. to ….	
16		…. to ….	

Table Number	CO Group	Extn Range	Ext BLF Slot
01	00	3000 - 3999	---
02	02	1000 - 3999	---
03	00	1000 - 8999	---
		…. to ….	
		…. to ….	
16		…. to ….	---

Figure A-11: Two-Node Networking Table Example

LEGEND:

***Table Number** = the identification number assigned to each array within the system.*

***CO Group** = the line group used to access each system. Co Group 00 = internal calls only.*

***Extn Range** = the extension numbering range for the array.*

***Ext BLF Slot** = identifies PRIB slot locations in the Hub that are associated with each Node within the network, other than the Node being defined by the Table Number row. This allows DSS/BLF updates to be sent to the correct systems within the network. Node systems do not identify Ext BLF Slot locations because the Hub system controls passing of information.*

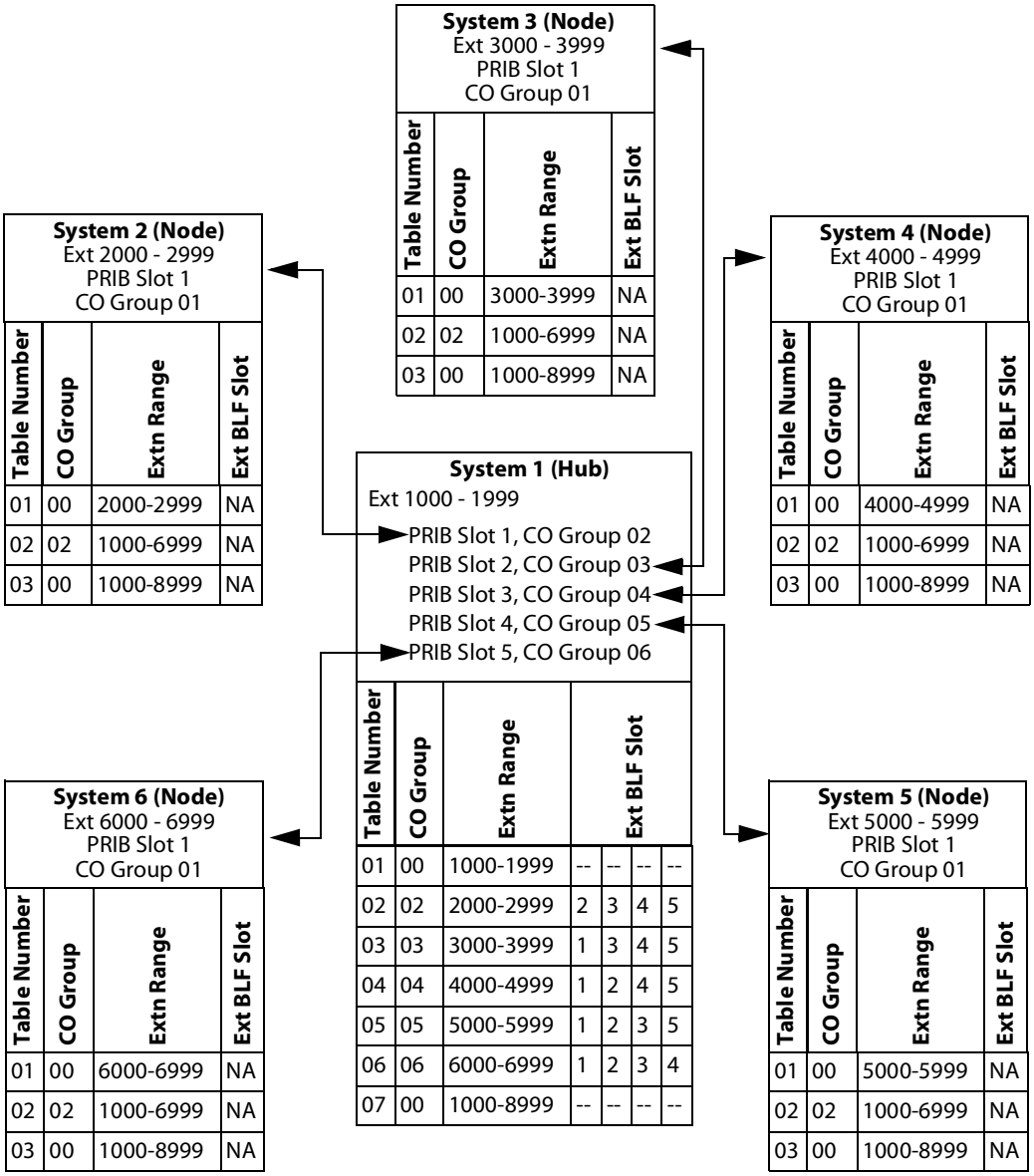

System 3 (Node)
Ext 3000 - 3999
PRIB Slot 1
CO Group 01
Table Number | CO Group | Extn Range | Ext BLF Slot
01 | 00 | 3000-3999 | NA
02 | 02 | 1000-6999 | NA
03 | 00 | 1000-8999 | NA
System 2 (Node)
Ext 2000 - 2999
PRIB Slot 1
CO Group 01
Table Number | CO Group | Extn Range | Ext BLF Slot
01 | 00 | 2000-2999 | NA
02 | 02 | 1000-6999 | NA
03 | 00 | 1000-8999 | NA
System 4 (Node)
Ext 4000 - 4999
PRIB Slot 1
CO Group 01
Table Number | CO Group | Extn Range | Ext BLF Slot
01 | 00 | 4000-4999 | NA
02 | 02 | 1000-6999 | NA
03 | 00 | 1000-8999 | NA
System 1 (Hub)
Ext 1000 - 1999
PRIB Slot 1, CO Group 02
PRIB Slot 2, CO Group 03
PRIB Slot 3, CO Group 04
PRIB Slot 4, CO Group 05
PRIB Slot 5, CO Group 06
Table Number | CO Group | Extn Range | Ext BLF Slot
01 | 00 | 1000-1999 | -- | -- | -- | --
02 | 02 | 2000-2999 | 2 | 3 | 4 | 5
03 | 03 | 3000-3999 | 1 | 3 | 4 | 5
04 | 04 | 4000-4999 | 1 | 2 | 4 | 5
05 | 05 | 5000-5999 | 1 | 2 | 3 | 5
06 | 06 | 6000-6999 | 1 | 2 | 3 | 4
07 | 00 | 1000-8999 | -- | -- | -- | --
System 6 (Node)
Ext 6000 - 6999
PRIB Slot 1
CO Group 01
Table Number | CO Group | Extn Range | Ext BLF Slot
01 | 00 | 6000-6999 | NA
02 | 02 | 1000-6999 | NA
03 | 00 | 1000-8999 | NA
System 5 (Node)
Ext 5000 - 5999
PRIB Slot 1
CO Group 01
Table Number | CO Group | Extn Range | Ext BLF Slot
01 | 00 | 5000-5999 | NA
02 | 02 | 1000-6999 | NA
03 | 00 | 1000-8999 | NA

Figure A-12: Five-Node Networking Table Example

LEGEND:

***Table Number** = the identification number assigned to each array within the system.*

***CO Group** = the line group used to access each system. Co Group 00 = internal calls only.*

***Extn Range** = the extension numbering range for the array.*

***Ext BLF Slot** = identifies PRIB slot locations in the Hub that are associated with each Node within the network, other than the Node being defined by the Table Number row. This allows DSS/BLF updates to be sent to the correct systems within the network. Node systems do not identify Ext BLF Slot locations because the Hub system controls passing of information.*

Programming Steps

1. Press **FLASH** and dial **[16]**. The following message displays:

```
NETWORKING TABLES
SELECT TBL NO
```

2. Select a valid table number (01-16), then press HOLD. The following message displays:

```
TBL 01
ENTER BUTTON NUMBER
```

3. Press the desired button to select a trunk group, station range, external busy lamp field, and system number:

   [1] = Select Trunk Group (00-23), then press HOLD.

   [2] = Station Range – START (1000-8999), then press HOLD.

   [3] = Station Range – END (1000-8999), then press HOLD.

   [5] = External Busy Lamp Field (BLF)(1-8), followed by [1] to add or [0] to delete, then press HOLD. (This button is for Hub programming only.) To add more than one BLF slot location, press the digit identifying the next slot location, followed by [1], then press HOLD. Repeat as necessary, until all slot locations are added.

   [6] = Status Check - press [0] to disable (default) or press [1] to enable.

   [22] = Page Up

   [23] = Page Down

   [24] = Returns you to Networking Tables display (shown in Step 1)

Button #4 is an active button used for VoIP programming, but it is not used for network programming. The VoIP card cannot be used for networking applications.

Conditions

» Feature access codes must not conflict with station numbering.

» CO line numbers are fixed and cannot be changed other than the current FLASH 42 reassignment.

» The VMID digits need to be programmed separately.

» The SMDR will output up to 4-digit numbers in the station field. If less than 4 digits are selected in the numbering plan, leading spaces will be added in place of numbers. Call Accounting devices need to be configured to accept 4 digits.

» When systems are tied together, each system has to have access to 911 through local lines.

Cabinet/Card Programming

Description

The Cabinet/Card Programming feature provides a means to assign the peripheral cards to alternative peripheral card slots.

Flash 24 also allows for partial signaling over T1IBs (9) or PRIBs (8). For example, card slots ordinarily accommodate 24 CO line time slots each. This feature allows you to limit the amount of time slots per card to four (4), or multiples of four (4) up to 20. To use this feature, the card ID is programmed followed by the number of CO lines to be used in groups of four (4). A group of four (4) is known as a cluster. If the card number is programmed without a cluster number, all COs on that card are active.

When using partial signaling, the last channel in the cluster and the 24th channel are data channels (e.g., for partial signaling with one cluster, the 4th and 24th channels are data channels. If two clusters are used, then the 8th and 24th channels are data channels.)

Programming Steps

1. Press **FLASH** and dial **[24]**. The following message displays

```
CABINET 0
ENTER BUTTON NUMBER
```

2. Press the button corresponding to the desired cabinet. Button #17-19 represent cabinets 0-2. The following message displays:

```
CAB  X  SLOT XX       00-16
DTIB
```

   Button #1 LED is lit to indicate that you are programming for peripheral card slot 0.

3. Press the button corresponding to the desired slot location. (Buttons #1-9 indicate peripheral card slots 0-8.)

Electrical bus configurations restrict the slots that can support T1 and PRI cards to slots 1-7 of Cabinet 0 and to slots 0-7 of Cabinets 1 and 2.

4. Enter a valid number for the type of card plugged into the current peripheral card slot.

[00] = None	[06] = GCOB	[12] = VOIP
[01] = ETIB	[07] = DIDB	[13] = SL12
[02] = DTIB	[08] = PRIB	[14] = LC08
[03] = DT24	[09] = T1IB	[15] = LCI8
[04] = SLIB	[10] = BRIB	[16] = SI12
[05] = LCOB	[11] = BR16	

5. Enter a valid number (1-5) to specify the desired cluster (partial) quantity.

[1] = cluster of 4	[3] = cluster of 12	[5] = cluster of 20
[2] = cluster of 8	[4] = cluster of 16	No Entry = All CO lines

6. Press HOLD to save the entry. A confirmation tone sounds and the display updates.
7. Press the reset button on the Main Processing Board (MPB).

Ring Assignment Programming

The local KSU will program ringing assignments by the fixed station number. For example, for CO line 1 to ring at station 100, use the sequence of Flash 40, 001001, HOLD, Page A, Button #10, dial 1007, HOLD.

A remote system programs ringing assignments by the flexible station number. For example, for CO line 1 to ring at station 2000, use the sequence of 20007 + HOLD.

A CO can only ring one remote device/extension at a time.

Programming Steps

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (e.g., 001 001).

If HOLD is pressed without entering a CO range, all CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that line or group of lines:

```
XXX - XXX PAGE A
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

4. Press the RING ASSIGNMENT flexible button **(FLASH 40, Page A, Button #10)**. The display shows the following information:

```
RING  ASSIGNMENTS
ENTER  DDDR
```

The actual LCD displays a 3-digit destination field (DDD), but both a 3- or 4-digit entry is possible.

5. Enter a valid Destination (DDD) or (DDDD) and Ring type (R) followed by the HOLD button (refer to *Table A-6*). A confirmation tone sounds and the display updates.

Only one Node or the Hub can ring at any one time.

Table A-6: CO Line Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a station
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]

** Internal flexible numbers range = 100-8999*
*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*
[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

To add multiple stations:

Enter: DDDDR HOLD DDDDR HOLD DDDDR HOLD...etc.

(Example: 10073 HOLD, 10083 HOLD, 10093 HOLD)

To delete a single station:

Enter: DDDD0 HOLD

(Example: 10080 HOLD)

To delete multiple stations:

Enter: DDDD0 HOLD DDDD0 HOLD...etc.

(Example: 10080 HOLD, 10090 HOLD)

Trunk Direction Programming

CO Lines can be programmed on a per CO Line basis for the type of CO Line desired: Incoming, Outgoing, or Incoming and Outgoing.

The 24th channel must be marked as Out-of-Service (OOS). This is true on all PRI cards, not just for networking.

To eliminate collisions (referred to as "glare"), it is best to either:

- Divide CO Lines into Incoming or Outgoing lines,

  -or-

- Renumber the CO Lines on all of the Nodes to hunt in reverse order (refer to "Flash 42, Flexible Port Assignment").

Programming Steps

1. Press the TRUNK DIRECTION flexible button. **(FLASH 40, Page A, Button #12).** The following message displays:

```
CO DIRECTION                    0-3
INCOMING - OUTGOING
```

2. Enter a valid number (0-3) on the dial pad which corresponds to the desired trunk type:

   [0] = Out-of-Service (OOS)

   [1] = Incoming Only

   [2] = Outgoing Only

   [3] = Both Incoming and Outgoing

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates.

T-1 / ISDN Signaling Type Programming

Description

TIE signaling is used for networking systems.

Programming Steps

If the system is in the programming mode, continue using the program codes. If starting to program here, enter the programming mode. If Page B CO Line features must be changed:

1. Press **FLASH** and dial **[40]**. The following message displays:

```
CO LINE ATTRIBUTES
SELECT A CO LINE RANGE
```

2. Enter a valid number for the range of lines being programmed. If only one line is being programmed, enter that number twice (001 001).

If HOLD is pressed without entering a CO range, ALL CO lines are selected.

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit.
4. Press the Page B flexible button (Button #20). The following message displays:

```
XXX - XXX PAGE B
ENTER BUTTON NUMBER
```

XXX-XXX = CO Line Range

5. Press the T-1/ISDN SIGNALING flexible button **(FLASH 40, Page B, Button #1)**. The following message displays:

```
T-1/ISDN SIGNAL TYPE          0-7
LOOP START
```

6. Enter [5] on the dial pad to select the TIE signaling type, then press HOLD. The following message displays:

```
T-1/ISDN SIGNAL TYPE          0-7
TIE
```

7. Press the reset button on the Main Processing Board (MPB).

DID/ICLID Ringing Assignments Programming

Description

DID or DNIS numbers are supplied by the telephone company. The ringing assignment, whether internal (xxx) or external (xxxx), is controlled by the Hub or Node where the call enters the Networking System.

Programming Steps

1. Press **FLASH** and dial **[43]**. The following message displays:

```
ROUTE 000  XXXXY
```

000 = Route Number (000–499)
XXXX = 3- or 4-Digit Ring Destination Number
Y = Ring Type

2. Press the RING ASSIGNMENT flexible button **(FLASH 43, Button #1)**. LED #1 is lit indicating Route 000 is ready for programming.

3. Enter a valid Destination (DDD) or (DDDD) and Ring Type (R) followed by HOLD (refer to *Table A-7*). A confirmation tone sounds and the display updates.

A DID line can only be programmed to ring one remote device at a time.

Table A-7: DID/ICLID Ringing Assignments

Valid 3- and 4-Digit Destinations (DDD) and (DDDD)	Valid Ring Types (R)
System Speed Bins [9020–9999], for Off-Net Ringing	[0] = No Ring; unassigned; or to delete a station
Flexible Extension Numbers*	[1] = Day Ring [D]
Flexible Numbers for Voice Mail Groups 1–8* [a]	[2] = Night Ring [N]
Flexible Numbers for Hunt Groups 1–8*	[3] = Day/Night Ring [DN]
Flexible Numbers for Direct Ringing to Modem*	[4] = Special Only [S]
Flexible Numbers for ACD Groups 1–16*	[5] = Day/Special [DS]
Flexible Numbers for UCD Groups 1–8*	[6] = Night/Special [NS]
Remote Device Numbers**	[7] = All Modes [Day/Night/Special [A]
Local Number/Name Translation Table Number [600-799]	

** Internal flexible numbers range = 100-8999*
*** Remote device numbers can be any numbers between 1000-8999, excluding those numbers assigned for internal use.*
[a] *For Remote Voice Mail Ring Assignment, refer to Flash 67.*

ISDN Programming

Description

If tying two systems together, they must be identified as PPNI2, which is Point-to-Point NI2 protocol.

The Hub system will be denoted as an NT and each Node will be denoted as a TE. When tying two systems together, an NT can only be connected to a TE.

Programming Steps

1. Press **FLASH** and dial **[45]**. The following message displays:

```
ISDN ATTRIBUTES
SELECT A SLOT RANGE
```

2. Enter a valid number for the range of slots being programmed. If only one slot is being programmed, enter that slot number twice (e.g., 11 for slot one only).

3. Press HOLD to save the entry. A confirmation tone sounds and the display updates. Flexible button #19 (Page A) is lit. The following message displays to indicate current programming of that slot or range of slots:

```
XY - XY PAGE A
ENTER BUTTON NUMBER
```

XY-XY = Slot Range
X = Cabinet (0, 1, 2)
Y = Slot (0-8)
NOTE -- Slot 8, Cabinet is reserved for the MISB.

4. Press the PRI CO TYPE flexible button **(FLASH 45, Page A, Button #2)**. The following message displays:

```
PRI CO TYPE                    1-4
NI2
```

5. Dial [2] to select the PPNI2 signal protocol.
6. Press HOLD to save the entry.
7. Press the NT/TE MODE flexible button **(FLASH 45, Page A, Button #4)**. The following message displays:

```
NT / TE MODE                   0-1
TE
```

8. Dial [0] for NT or [1] for TE.
9. Press HOLD to save the entry.
10. Press the reset button on the Main Processing Board (MPB).

Remote Voice Mail Programming

Description

This feature is used to specify the VMID digit length and the pilot hunt number of the centralized voice mail system. For example, if the centralized voice mail is installed on the Hub system and is accessed by dialing 1440, then 1440 must be programmed in Flash 67, Button #5 by each remote system administrator.

Programming Steps

1. Press **FLASH** and dial **[67]**. The following message displays:

```
VM FEATURES
ENTER BUTTON NUMBER
```

2. Press Button #4 to access VMID DIGITS programming and the following message displays:

```
VM ID DIGITS              2-4
3
```

3. Enter a value of 4, then press HOLD to save the entry.
4. Press Button #5 to access remote voice mail programming and the following message displays:

```
REMOTE VM NO #,1000-8999
####
```

5. Enter a valid number (1000-8999) or the # symbol. The number represents the pilot hunt number of the centralized voice mail system. The # symbol is used to disable remote voice mail.
6. Press HOLD to save the entry.
7. Press VMID STATION button **(FLASH 06, Button #15)**. The following message displays:

```
VMID SAME AS STA #
PRESS HOLD
```

8. Press HOLD to set VMID numbers to be the same as the station numbers.

Station User Impacts

Digital Station Displays

Node to Node

When dialing from one Node to another Node, the display of the dialing station reflects the station dialed (e.g., 3400). The display then updates with either the name or the number of the dialed station.

When receiving a call from another Node, it resembles a station call.

Node 1 (Paul at Station 2000) dials William ext. 3400

```
STA 2000

MMM DD YY      HH:MM am
```

The display updates as shown:

```
CALL TO WILLIAM

LINE 023       HH:MM am
```

-or-

```
Call To STA3400

LINE 023       HH:MM am
```

Node 2 at Station 3400 receives the following display

```
PAUL CALLING

LINE 023       HH:MM am
```

- or-

```
STA2000 CALLING

LINE 023       HH:MM am
```

Node to Node - DND or Forwarding In Use

When calling from one Node to another, it is possible to encounter a station that is in DND or in a forwarding mode. When this happens, one of the following displays appears.

```
WILLIAM IN DND
LINE 023                  hh:mm:ss
```

-or-

```
STA3400 IN DND
LINE 023                  hh:mm:ss
```

-or-

```
FWD TO WILLIAM
LINE 023                  hh:mm:ss
```

-or-

```
FWD TO STA1234
LINE 023                  hh:mm:ss
```

Conference

When a conference is established between several extensions, either local or remote, the display will show the following message:

```
CONFERENCE
LINE 023                    hh:mm:ss
```

Quick Start Procedure

Networking uses PRI cards for connecting the systems together; however the telco circuit is a point-to-point T1, **not** a PRI. Most telco circuits will reverse the transmit and receive pairs from end to end, so it is important that this is corrected by swapping transmit and receive at the **hub** network PRI(s). The connection should end up as **straight through** from hub to node(s).

Enable LCR on all systems for outbound dialing. (See the LCR programming section of this Quick Start procedure)

Extension range 9000-9999 is reserved for speed dial.

Programming

Flash 09 – System Parameters

Button #8 - Identify system node (1-16)

Each system in the network must be identified e.g., **Hub** is always system Node 1, the first **Node** is system Node 2, the second **Node** is system Node 3, etc.

Button #9 – Enter leading digit (0-8)

Each system needs it's own numbering plan. This will place leading digit before all **3-digit codes**, 2-digit codes are not affected. Example: Hub numbers are 1000's, so enter 1 HOLD.

Flash 16 – Network tables

Select table number (Table 01 will always contain the numbering plan for the system you are programming and will use CO group 00 (internal)). **CO group 01 is reserved for outdialing and dial '9' access.**

Button #1 – Select CO group (group assigned to **network** PRIB)

Button #2 – Station range START (1000-8999)

Button #3 – Station range END (1000-8999)

Button #5 – External BLF (1-9) This is programmed at the **Hub** only. You identify the PRIB slot locations in the **Hub** that are associated with each **Node** in the network, other than the node being defined by the table number you are programming. You **do not** identify External BLF slot locations in the **Node**(s) programming because the **Hub** controls passing of this information. **If you only have 1 Node you do not have to program the external BLF.** All unused tables **must** be programmed for CO group 00 and contain the entire numbering range (1000-8999). This will prevent any invalid numbers from trying to dial across the network, the system will check the networking tables in order before attempting to dial.

Example: Hub and 3 Nodes

Hub Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Hub	NA
02	02	Ext. range for Node 1	PRIB slots for Node 2,3
03	03	Ext. range for Node 2	PRIB slots for Node 1,3
04	04	Ext. range for Node 3	PRIB slots for Node 1,2
05-16	00	Entire Ext. range	NA

Node 1 Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Node 1	NA
02	02	Ext. range for Hub and Node 1, 2, 3	NA
03-16	00	Entire Ext. range	NA

Node 2 Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Node 2	NA
02	02	Ext. range for Hub and Node 1, 2, 3	NA
03-16	00	Entire Ext. range	NA

Node 3 Programming:

Table No	CO Group	Ext. Range	External BLF
01	00	Ext. range for Node 3	NA
02	02	Ext. range for Hub and Node 1, 2, 3	NA
03-16	00	Entire Ext. range	NA

Flash 24 –Cabinet/Card programming

Partial signaling is allowed on PRIBs (8). Normally a PRIB uses 24 time slots each. You can limit the number of time slots per card to four (4), or multiples of four (4) up to 20. To use the feature, program the card ID followed by the number of CO lines to be used in groups of four (4). A group of four (4) is called a cluster. **If a card number is programmed without a cluster number, all COs on that card are active.** This feature is useful if data is to be shared with voice using a CSU/DSU.

1. Select cabinet (Button 17-19).
2. Select slot for PRIB (Button #1-#8).
3. Enter card number (08).
4. Enter cluster number (1-5) e.g., 081=PRIB4, 082=PRIB8, 083=PRIB12, etc.
5. Press the reset button on the MPB (make sure switch 8 is off!).

Flash 40 – CO line attributes

Enter CO range for the PRIB(s).

Page A, Button #12 – Trunk direction (at the **Hub** set the first half of the trunks to incoming only, at the **Node(s)** set the second half of the trunks to incoming only) this will prevent collisions from occurring.

Page B, Button #1 – T1/ISDN Signaling type

Enter 5 HOLD for TIE.

Flash 45, Page A – ISDN Programming

Enter PRIB slot number, e.g., for slot 1, enter 11 HOLD.

Button #2 – Enter 2 HOLD (PPNI2)

Button #4 – Enter 0 HOLD (NT=Hub), 1 HOLD (TE=Node)

Flash 67 – Remote Voice Mail Programming

Button #4 – VMID – set to **4** digits

Button #5 – Enter valid number (1000-8999) Pilot VM group number of centralized VM. **This is not entered in the system where the voice mail is connected.**

NOTE: If flexible numbering is done, be sure to go to **Flash 06, Button #15** and press HOLD. (VMID same as station number).

LCR Programming

When outbound trunks reside in only one system on the network (i.e., Hub), then LCR must be activated on all systems to allow dialing out. This is accomplished in Flash 75 programming by routing all outgoing calls over the network and by programming the LCR access code (800) to be inserted in front of the number being dialed, thus ensuring that all outbound calls access the main trunk group of the Hub.

LCR Programming (Hub)

Flash 05

Button 7 – Enable

LCR programming (Node)

Flash 05

Button 7 – Enable

Flash 75

Button 4 – Route List Table

Enter 001xx001 HOLD

Enter 011xx001 HOLD

Where xx = Trunk group for PRIB

Button 7 – Weekly Schedule Table

Enter 01111 HOLD

Enter 11111 HOLD

Enter 21111 HOLD

Enter 31111 HOLD

Enter 41111 HOLD

Enter 51111 HOLD

Enter 61111 HOLD

Button 5 – Enter 001800 HOLD

Call Park Programming

Park zones need to be set up for each system in the network so that calls can be parked and retrieved from any system. The following is an example of how to set this up for a 2-system network.

Hub

Flash 52 – Flexible numbering

Fixed	Flex
430-437	2430-2437 (to park call)
#430-#437	3430-3437 (to retrieve call)

Node

Flash 52 – Flexible numbering

Fixed	Flex
430-437	2438-2445 (to park call)
#430-#437	3438-3445 (to retrieve call)

You need to divide the park zone locations and allow all systems to dial each other's park and retrieve codes. In this example, the 16 park zones were divided in half. **You can only park a call in the system you are on.**

B Voice Over the Internet Protocol

This chapter contains detailed information about Voice Over the Internet Protocol.

Product Description

The *Discovery* Voice Over the Internet Protocol (VoIP) printed circuit board (PCB) is for use on Vodavi *DVX^{Plus}II/III* key service units (KSUs), that includes the Vodavi telephone systems. It provides an Ethernet interface to connect the KSU to an Internet Protocol (IP) network. The latest in voice processing protocols and hardware technologies are used to provide the highest quality voice over an IP network. In addition to supporting a Vodavi KSU, compatible IP phones can establish calls with the *Discovery* VoIP card, allowing calls to be made to and from the IP phone.

The *Discovery* VoIP card allows voice communication to other devices via an IP network such as an internal Local Area Network (LAN), the Internet, or a Wide Area Network (WAN) using the Ethernet interface. The *Discovery* VoIP card employs H.323 Revision 2 fast protocol to ensure Quality of Service (QoS). This protocol reduces echo, jitter, and latency whether the voice traffic is travelling via the Internet or a dedicated WAN. The result is a QoS that can be equal to or better than "Toll Quality".*

Voice, call transfer, call conference, and DTMF capabilities for Interactive Voice Response (IVR) and Voice Mail (VM) systems are provided by the *Discovery* VoIP card through the IP network. By taking advantage of the existing telephony infrastructure, the *Discovery* VoIP card extends the reach of the KSU to remote and home offices. Bandwidth is allocated only when a call is established and can be managed through programmable voice encoder standards.

** Assumes high network availability and performance (<120 ms latency).*

Benefits

The *Discovery* VoIP card offers many advantages over conventional long-distance and other telephony standards.

- Eliminates long-distance charges accrued between remote offices.
- Retains current telephony infrastructure while providing state of the art technology.
- Provides internal extension dialing for remote sites, with little installation effort.
- Takes advantage of existing data network connections (WAN, LAN, or Internet).

Specifications

The *Discovery* VoIP card uses Transmission Control Protocol/Internet Protocol (TCP/IP) for packet delivery over an IP network. Additional standards and protocols are used to provide DTMF, voice processing, and compression.

The *Discovery* VoIP card can accommodate up to four *Discovery* VoIP modules. Each *Discovery* VoIP module provides capability for two ports, resulting in a maximum of eight ports when all four modules are installed.

Features

The following describes many of the features built into the *Discovery* VoIP card.

On-Board Processor

50 Mhz PowerPC RISC Processor

Protocols

- TCP/IP
- H.323 Revision 2

Multiple Voice Compression Technologies

- G.723.1
- G.729
- G.711 A-Law
- G.711 U-Law

Connections

- One 10 / 100 Mps RJ45 Ethernet port
- One RS-232 Port (for Administration and Troubleshooting)

VoIP Card Reset Button

The *Discovery* VoIP card can be reset separately from the rest of the KSU.

Network/Voice Troubleshooting Tools

The Admin port (RS-232) provides troubleshooting tools to determine network connectivity and to trace the current call status via HyperTerminal, ProComm, or other terminal emulation programs. Network connectivity is tested through the PING utility. Tracing call status will show H.323 and IP events during any call sent or received by the *Discovery* VoIP card. Also, the current VoIP configuration can be viewed through the Admin port.

Installation

Multiple connection types can be used to implement the *Discovery* VoIP card in the business environment. The speed of a network connection is measured in bandwidth or kilobytes per second (K or kbs). Business connections generally have a speed of 256K or greater. In comparison, a home user dialing into the Internet with a modem can reach a maximum speed of 56K.

The two main types of connections are managed and unmanaged. A managed connection is a private connection with a guaranteed amount of bandwidth. In this type of connection, the connection is completely managed by the business. This might be compared to a parking lot that is for employee use only. An unmanaged connection, however, is one that shares bandwidth with other users. The Internet is the best example of this type of connection. The Internet connects many different businesses, but no one is able to control the data travelling on the Internet. In this case, the performance of the connection depends on how many people are using the Internet. It is like a freeway, in that travel is slower when traffic is heavy and faster when traffic is light.

Hardware Requirements

See your network administrator before installation.

- At least two installed *DVX^{Plus}II/III/IV* systems with available card slots.
- At least one *Discovery* VoIP card installed in each system

Network Requirements

- A 10 / 100 MB LAN, Internet connection (256K or higher), or WAN (256K or higher) between each KSU or other device connection. WAN connections can be point-to-point, frame relay, or equivalent connections as long as the connection supports IP.

Refer to Table B-1 for minimum and recommended bandwidths.

- Available static IP addresses for each *Discovery* VoIP card. For example, an Internet routable address must be used if the Internet will be used to connect remote offices. Internal IP addresses are used on a private WAN.

Network Address Translation (NAT) cannot be used to provide a routable address for the KSU.

System Requirements

A 4-digit dialing plan should be implemented before setting up the *Discovery* VoIP card.

Technical Data

Lower bandwidths, lower connection reliability, and high network latency will decrease *Discovery* VoIP performance. Bandwidths lower than 256K and network latency higher than 120 ms may cause unacceptable performance. Intermittent fluctuating connections (i.e., some wireless broadband connections) will cause unacceptable performance problems. Have your network administrator check your network performance and bandwidth to determine your network constraints before installing the *Discovery* VoIP card.

Recommended Bandwidths

The following table shows the recommended and minimum bandwidths for use with *Discovery* VoIP. The values are based on the number of ports.

Table B-1: Bandwidths

	2 Ports	4 Ports	6 Ports	8 Ports
Recommended	512K	640K	T1	T1
Minimum	256K	256K	512K	512K

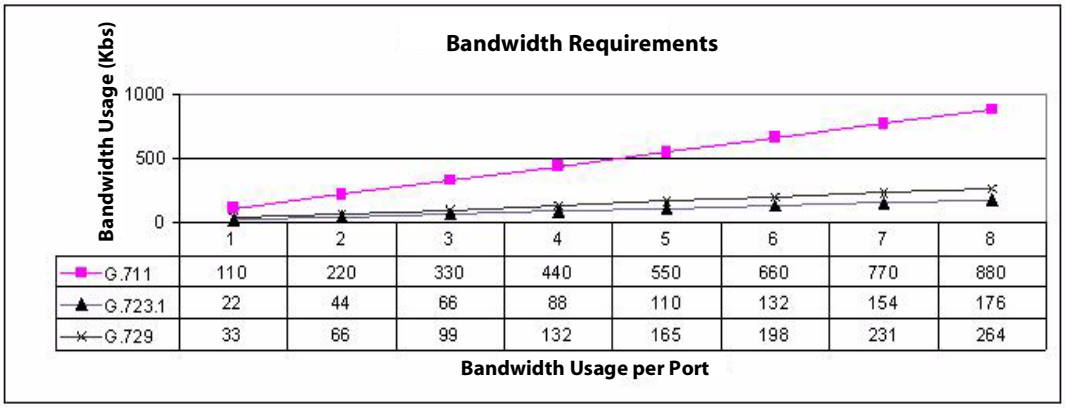
Note: Assumes network latency is below 120 ms

Voice Encoder Information

There are four built-in voice encoding standards (vocoders) in the *Discovery* VoIP card. The most bandwidth-efficient standard is G.723.1 due to its compression technology. The highest voice quality is provided by the G.711 standard (both A-law and U-law) because no compression is used. The G.729 standard is between the G.723.1 and G.711 standards in terms of bandwidth usage and performance. The G.729 standard loses some voice quality due to the use of compression. The default vocoder standard is G.723.1 to conserve bandwidth.

The *Discovery* VoIP card intelligently handles incoming VoIP calls by negotiating with the initiating system to determine the preferred vocoder standard to use during that call. For example, a system that is set for the default standard (G.723.1) can initiate a call with another system set to the G.711 A-law standard. The entire call will be established with the G.723.1 standard. The same is true for a G.711 A-law system establishing a call with the G.723.1 system. In this case, the G.711 A-law standard will be used for that call. Lower bandwidth connections, however, may be saturated when using the G.711 standards.

The following chart shows the bandwidth consumption by vocoder.



	1	2	3	4	5	6	7	8
G.711	110	220	330	440	550	660	770	880
G.723.1	22	44	66	88	110	132	154	176
G.729	33	66	99	132	165	198	231	264

Figure B-1: Bandwidth Consumption by Vocoder

IP Phones

IP phones using the H.323 Revision 2 protocol will work with the *Discovery* VoIP card. The IP phone, however, will not be integrated into the system. Instead, the IP phone resembles a single-line telephone that uses the Internet or other IP network instead of the PSTN. IP phones allow dialing using the IP address of the destination system. Most IP phones allow the user to program a button with the IP address of the system to dial. This allows the user to dial in to the VoIP card where they are directed to the attendant. The attendant then transfers the user to the desired extension.

The vocoder standards may not be as flexible for the IP phone as the *Discovery* VoIP card. Ensure that the vocoder standards used on the KSU match the standards that are used on the IP phone. For example, a phone that uses only the G.711 U-law standards can initiate a call with any *Discovery* VoIP card. However, for a call to be initiated successfully by the KSU to the IP phone used in this example, the KSU default standard (G.723.1) must be changed to the G.711standard.

Not all IP phone manufacturers have adopted the H.323 Revision 2 standard. Therefore, Vodavi cannot guarantee the compatibility or performance of IP phones.

Quick Start

This quick-reference diagram shows the configuration necessary to connect the *Discovery* VoIP card to the Internet, WAN network, or VPN network:

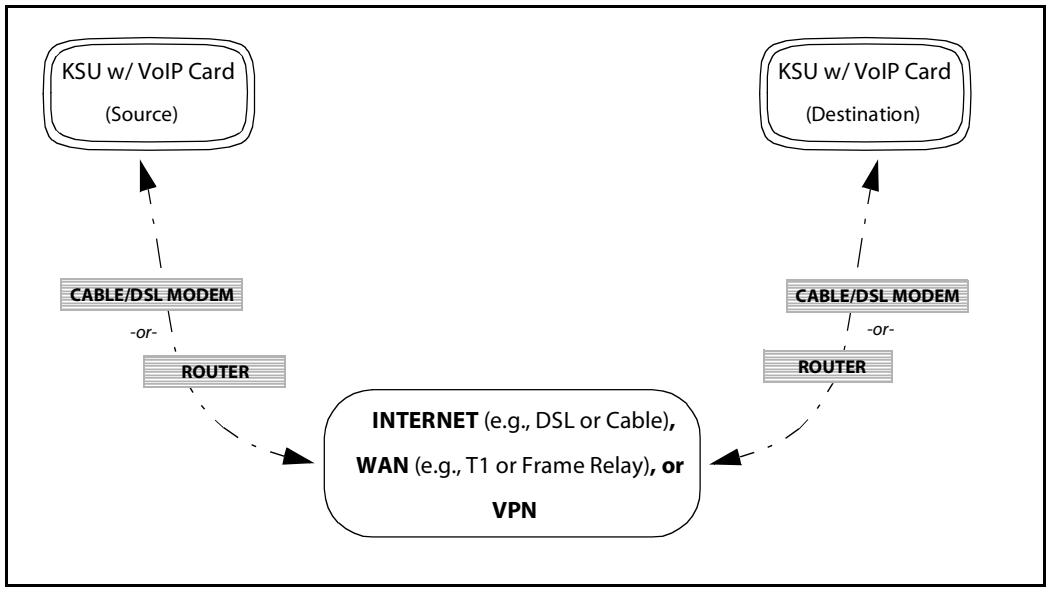


Figure B-2: *Discovery* **VoIP Card Connection Diagram**

Programming

The following Table shows the Network programming requirements.

Table B-2: VoIP Card Network Programming Requirements

Requirement	Description
IP Address(es)	An IP Address is required to properly program a *Discovery* VoIP card in the KSU. If the Internet will be the connection medium, an Internet routable address is necessary. The network administrator should be able to provide this address.
Subnet Mask	A Subnet Mask is required to establish communications between endpoints. This address is critical to establish a connection between two or more switches. The *Discovery* VoIP card will not function without it.
Router	An address must be supplied for the Gateway Router to provide connectivity. If no router exists between the KSUs (i.e., an internal LAN setup), then the other router's IP address should be programmed here.
Domain Name	The Domain Name is entered in Database Administration programming as follows: *name*.com (e.g., vodavi.com). The "www" is not needed for programming. A dot or period (".") is added by dialing [24].
Vocoder	This command is used to change the default audio capability. When establishing a call, the system making the call requests the preferred audio capability from the receiving system and negotiates the audio encoding to be used. This setting defines that preferred audio encoding.

Identifying the VoIP Card (FLASH 24)

The *Discovery* VoIP card can be placed in slots 1-7 of Cabinet 0 and in slots 0-8 of Cabinet 1 and Cabinet 2. Once the slot is identified, it takes the required time slots and deducts them from the available ones. It activates all 8 circuits. If more then one card is identified, each card is identified in the same manner and it requires its own unique IP address.

1. While in the programming mode, dial [FLASH 24].
2. Press the button that corresponds with the Cabinet location of the VoIP card (Button #17-19 represents Cabinets 0, 1, and 2).
3. Press the button corresponding to the desired slot location. Buttons 1-9 indicate peripheral card slots 0-8.
4. Dial the code (12) for the VoIP card and press HOLD.

```
CAB  0 SLOT 04    00-14
VOIP
```

Entering Network Programming Requirements (FLASH 46)

Flash Code 46 is for the specific network programming requirements for the *Discovery* VoIP card. IP address, subnet and router address information must be entered for the VoIP card to work. Each card installed in the system requires a separate IP address and subnet mask. The router address and domain name may be shared. See your network administrator for networking information.

1. Enter programming mode and dial [FLASH 46].
2. Enter the Cabinet number followed by the slot number where the *Discovery* VoIP card is installed twice (e.g., 0404 for a VoIP card installed in slot 4 of Cabinet 0) and press HOLD.

The first two digits indicate the FROM Cabinet/slot where the programming will come from. The second two digits indicate the TO Cabinet/slot (i.e., the programming destination). This method is used to provide for future functionality.

```
04-04 PAGE A
ENTER BUTTON NUMBER
```

3. Press Button #1, enter the IP address for the card, then press HOLD to save the entry.

   When entering an IP Address, the "✳" key on the telephone acts the same as the <Tab> key on a computer. An IP address can be entered using zeros where there is no number. For example: 10238✳56✳1 can be entered 102038056001, thus eliminating the need for using the "✳" key. Either entry will display: 102. 038. 056. 001 (a zero is displayed as a "space" or "Null" character).

```
IP ADDRESS
102.038.056.001
```

Each card requires its own IP address and its own Subnet Mask, using the standard format for each: xxx.xxx.xxx.xxx Without these numbers, the VoIP card will not operate and will show as Out of Service (OOS) in the system.

4. Press Button #2, enter Subnet Mask, then press HOLD to save the entry.

   A Subnet Mask of 255.255.255.0 is entered as 255255255 + [HOLD]; the telephone will display 255.255.255., which is correct.

```
SUBNET MASK
255.255.255.
```

5. Press Button #3, enter Router IP address, then press HOLD to save the entry.

```
ROUTER ADDRESS
102.038.056.100
```

6. Press Button #4, enter Domain Name (up to 64 characters), then press HOLD to save the entry.

```
DOMAIN NAME
VODAVI.COM
```

The domain name is entered in standard Vodavi format:

- The first number pressed identifies the three-digit group of alpha characters to be selected.
- The second number (1,2, or 3) specifies the exact alpha character within the group.
- The "." symbol is represented by dialing [24].

Example -- Dialing 83633121834324236361 represents VODAVI.COM

7. Press Button #5, enter the desired vocoder value (0-4), then press HOLD to save the entry.

```
VOCODER                    0-4
G.723.1
```

[0] = None

[1] = G.723.1 (default)

[2] = G.729

[3] = G.711 A-Law

[4] = G.711 U-Law

Setting Up the CO Line Groups (FLASH 40)

The CO Line Group must be programmed for the *Discovery* VoIP CO lines. In addition, a TIE circuit must be established to provide system-to-system connectivity.

1. While in programming mode, dial [FLASH 40].
2. Dial the appropriate range that equals the CO time slots used (e.g., 001-008 or 006-013), then press HOLD.
3. Press Button 8, enter an available Line Group (01-23) based on your existing system programming, then press HOLD.

The Discovery VOIP card uses 8 CO time slots.

Unused COs on the Discovery VoIP card do not have to be placed in Line Group 00 (e.g., a 4-port VoIP card takes 8 CO time slots, but only 4 CO lines are used) since the software disables unavailable VoIP ports automatically.

4. Press Button 20 (Page B), then press Button 1.
5. Dial [5], then press HOLD.

```
T1/ISDN    SIGNAL TYPE 0-7
TIE
```

Networking Tables (FLASH 16)

Networking Tables identify the system number (01-16), the CO or line Group (00-23), the range of station numbers (from xxxx to xxxx), and the IP address for each system. The system number is a database identifier. The CO or line group identifies the line group the system should access when the associated extension number is dialed. The extension range defines the extensions that can be reached at the associated remote system. The IP address provides the IP information of the remote system that is associated to the extension range, CO or line group, and the system number.

When a specific extension is dialed, the system looks up the extension in the networking table to determine the line group to use. The line group is then accessed and the *Discovery* VoIP card establishes the IP connection to the remote system using the associated IP address.

Make sure that your 4-digit dialing plans on the remote systems do not conflict with your local dialing plan. If there is a conflict, users will be required to access the VoIP line group first and then dial the remote extension. Otherwise, dialing the 4-digit extension directly will connect the caller to a local system extension and not the remote system extension. For example, if System A uses extensions 1000-1099 and System B uses 1000-1099, a user on either system could not dial the remote system directly because local system extensions take precedence over remote system extensions. In this case, a user would have to access the Discovery VoIP line group and dial the remote system extension to bypass the local system's dialing plan.

The Discovery VoIP CO's default into Line Group 1. The line group may need to be changed for proper operation on your particular system. Refer to the FLASH 40 programming section for more information on changing line groups.

1. Enter programming, then dial [FLASH 16].
2. Enter the system to be modified (01 to 16).
3. Press the appropriate button listed below to modify the table.

Button 1 - Line group programming (00 to 23).
Button 2 - Station from (start) range – must be 4 digits.
Button 3 - Station to (end) range – must be 4 digits.
Button 4 - IP address to dial when any station within that range is dialed. For example, if station 3001 is dialed, the telephone switch connects the call using the IP address: 102. 38. 56. 1 (refer to *Table B-3*)
Button 22 - Page to next Networking table.
Button 23 - Page to previous Networking table.
Button 24 - Enter a new Networking table.

Table B-3: System Networking Tables

System	CO Group	Station Range From	Station Range To	IP Address
01	1	1000	1200	172.016.016.001
02	2	2000	2400	209.054.002.001
03	2	3000	3500	102.038.056.001
04				
05				
06				
07				
08				
15				
16				

Conditions

» Feature access codes must not conflict with station numbering.

» CO line numbers are fixed and cannot be changed other than the current FLASH 42 reassignment.

» The VMID digits need to be programmed separately.

» The SMDR will output up to 4-digit numbers in the station field. If less than 4 digits are selected in the numbering plan, leading spaces will be added in place of numbers. Call Accounting devices need to be configured to accept 4 digits.

» When systems are tied together, each system has to have access to 911 through local lines.

Operation

The *Discovery* VoIP card operates like all other Central Office cards. There are up to 8 lines per card, and each line functions as any other CO line functions. It allows bi-directional communication and monitors for disconnect while using minimal bandwidth. It also allows four-digit dialing and other features.

When using *Discovery* VoIP lines:

- If a button is programmed, a busy lamp field (BLF) will illuminate (on initiating station only) when a CO line is in use.
- Calling can be done using speakerphone, handset, or headset; bi-directional communication is the default.
- After a call is connected, it has the ability to use End to End signaling, which allows DTMF to be sent over the connection. This is used for functions such as remote VM systems.
- Each line monitors for disconnect signaling, simulating Loop Supervision. When a line is off hook for 5 seconds or more, and no action is taken, an error tone sounds.

Network Connection

When the network cable is removed, or the network goes down, all COs will go out of service. All calls will be denied and an error tone will be heard if the line is accessed.

Dialing

Use Networking Tables (FLASH 16) to program stations to automatically use the appropriate line group and IP connection for a dialed number.

Line Access

Off Net Forward

A line is allowed to be transferred to a station that is Off Net Forwarded to a remote location.

DTMF Only

The VoIP card only supports tone dialing (DTMF).

911 Support

The *Discovery* VoIP card does **not** support 911 calls. Therefore, the system cannot solely use *Discovery* VoIP CO cards.

Station Access

Discovery VoIP CO access for each station is allowed or denied access to these trunks through standard CO Line access.

IP Telephony Standards and Protocols

The *Discovery* VoIP card uses the H.323 Revision standard for call processing. This is an updated version of the H.323 standard. It provides a set of standards defining real-time multimedia communications and conferencing over packet-based networks. These standards define how components that are built in compliance with H.323 set up calls, exchange compressed audio and video, participate in multi-unit conferences, and operate with non-H.323 endpoints.

The IP telephony standards/protocols shown in *Table B-4* are adhered to by the *Discovery* VoIP card.

Table B-4: IP Telephony Standards/Protocols

Standard		Description
H.323	Revision 2	Supports H.323 terminals and is the basis for all IP telephony.
H.225	Media Packetization	Provides media packetization and synchronization for video/ audio telephony on non-guaranteed quality of service LANs.
H.245	DTMF Signaling	Arbitration of GSM compression -- provides the new audio capabilities and supports the signaling entities required for call control functions for multimedia communications, while it specifies the in-band signaling protocol necessary to establish a call, determine capabilities, and issue the commands necessary to open/close the media channels.
	Close Logic Signaling	Supports signaling of a pair of associated unidirectional channels which allows for the establishment of a T.120 data channel.
	Round Trip Signal	Allows determination of the round trip delay between two communicating channels.
G.165	Echo Cancellation	When echo is present, a preprogrammed button is available to increase or decrease the latency of that call. Upon termination of each call, the unit restores the default setting.
G.711	Pulse Code Modulation of Voice Frequencies	Transmits and receives A-law and U-law PCM voice at digital bit rates of 48, 56, and 64 Kbps. It is used for digital telephone sets on digital PBX and ISDN channels. Support for this algorithm is required for ITU-T compliant videoconferencing. (slowest protocol)
G.723.1	5.3 Kbps compression for dual rate speech coders for multimedia communications	Runs at 6.3 or 5.4 Kbps a compression and uses linear predictive coding directory for an open architecture to ensure connectivity with other switches. Moreover, this compression helps provide smoothness. (Default)
G.729	Speech encoding 8 Kbps	Encodes/decodes speech at the rate of 8 Kbps using conjugate-structure, algebraic-code excited linear predictive methods.
Q.931	Messages: - Progress - Setup - Acknowledgment	Creates a unique global identifier that allows all messages associated with a call to be interoperable between the registration, administration and status protocol used in IP networks utilizing the Q.931 signaling protocol used in circuit-switched telephony networks. Supports messages that are used for call signaling, including all mandatory and conditionally mandatory messages, some optional messages and information elements, and the facility message defined in Q.931 and Q.932.

VoIP Glossary

This table describes the Internet Telephony terms used in this section:

Term	Definition
Asynchronous Transmission	A method of data transmission which allows characters to be sent at irregular intervals by preceding each character with a start bit and following it with a stop bit
bps	Data bits per second, also known as Baud Rate
DTMF	Dual Tone Multi-Frequency
Gateway	Bridges H.323 conferences to other network communications protocol and multimedia formats
Header	Protocol control information located at the beginning of a protocol data unit. This portion of a message contains information that will guide the message to the correct destination by including sender's and receiver's addresses, routing instructions, etc.
Hub	A physical connection for multiple LAN devices. Commonly, 10/100 Base-T Ethernet support through a RJ-45 connection is provided.
IANA	Internet Assigned Number Authority – the one agency that issues all IP addresses
ISP	Internet Service Provider. A vendor who provides access to the Internet and World Wide Web.
Jitter	Network-provided variations in latency for different packets, which is particularly disruptive to audio communications.
LAN	Local Area Network
Latency	A term used to indicate waiting time or time delay in delivering packets over a network.
Octet	Three digits between decimal points in an IP address. There are eight binary bits for numbers from 0-255, making it an octet.
PSTN	Public Switching Telephone Network
QoS	Quality of Service
Router	A unit that routes Packeted information interfacing two separate networks
TTL	Time to Live. Used with the IP protocol, it is the time after which the packet can be deleted from the network. This is typically measured in milliseconds.
VoIP	Voice Over Internet Protocol
VPN	Virtual Private Network. The definition is very broad. Typically, this means some form of "virtually private" network created over a public network (i.e., the Internet) using encryption technologies to create a secure connection between two or more sites.
WAN	Wide Area Network. A computer or voice network bigger than a metropolitan area. Sometimes used to define a network that spans a metropolitan area which could also be called a MAN (Metropolitan Area Network).

C Default Numbering Plan

This appendix contains the default numbering plan for the systems.

Function	Code	Digital	Electronic	Attendant	SLT
911 Alert View/Delete (reqs btn)	608/608+FLASH	●		●	
Account Code (reqs btn)	627	●	●	●	●
ACD Call Factor* (reqs btn)	580+[UUU]+[FFF]	●		●	
ACD Call Qualifier*	570+[YYY]	●	●	●	
ACD CIQ Display Btn* (specific ACD group) (reqs btn)	579+[UUU]	●	●	●	
ACD Group* (group 1-16)	550-565	●	●	●	●
ACD Help* (reqs btn)	574	●	●	●	
ACD Member Status*	573	●	●	●	
ACD Overflow Available/Unavailable*	578	●	●	●	
ACD Login (Primary)*	572+[UUU]+[UUUU]	●	●	●	●
ACD Login (Secondary)*	582+[UUU]+[UUUU]	●	●	●	●
ACD Logout (Primary)*	571	●	●	●	●
ACD Logout (Secondary*	581	●	●	●	●
ACD Supervisor Display*	577+[UUU]	●	●	●	
ACD Supervisor Login*	576+[UUU]+[UUUU]	●	●	●	
ACD Supervisor Logout*	575+[UUU]	●	●	●	
ACD*/UCD Available/Unavailable	566	●	●	●	●
ACD*/UCD CIQ Sta Display (any group)	567+[UUU]	●	●	●	
Answering Machine Ring	654+[0]	●	●	●	
Answering Machine Speaker	654+[1]	●	●	●	
Attendant	0	●	●		●
Attendant Clear Alarm (T-1)	606			●	
Attendant CO Line External (Off-Net) Forward	603+[NNN]+[YYYY]			●	
Attendant Custom Message	694+[XX]+message			●	
Attendant Day/Night/Special (reqs btn)	631 (DND key)			●	
Attendant Directory List Programming	693			●	
Attendant Disable Outgoing CO Line	602+press CO line btn			●	
Attendant Override (reqs btn)	601			●	
Attendant Setting Time and Date	692+date & time			●	
Attendant Unavailable	607			●	
Attendant Voice Mail Alarm Clear	656			●	
Background Music	632+[0 , 1, or 2]	●	●	●	

Function	Code	Digital	Electronic	Attendant	SLT
Call Back	622				●
Call Coverage - Non-Ring (reqs btn)	647+[XXX]	●	●	●	
Call Coverage - Ringing (reqs btn)	646+[XXX]	●	●	●	
Call Forward	640+[C]	●	●	●	●
Call Forward - External (Off-Net)	[640]+[✳]+[YYYY]	●	●	●	●
Call Forward - Follow Me	642+[XXX]+[C]+dest	●	●	●	●
Call Park (group 1-8)	430-437	●	●	●	●
Call Park - Personal	438	●	●	●	●
Call Park - Station	439+[XXX]	●	●	●	●
Call Park Pickup - Station	#6+[XXX]	●	●	●	●
Call Park Pickup - System (group 1-8)	#430-#437	●	●	●	●
Call Pickup (reqs btn)	#0	●	●	●	●
Caller ID Display (Answered Calls)	659	●	●	●	
Caller ID Display (Unanswered Calls)	635	●	●	●	
Caller ID Name/Number (reqs btn)	653	●	●	●	
Calling Forward Override	5#+[XXX]+press[B]	●	●	●	●
Calling Station Handsfree Mode Override	7#+[XXX]	●	●	●	●
Calling Station Tone Mode Override	6#+[XXX]	●	●	●	●
Camp On (8 btn)	620	●			●
Clear Call Fwd, DND, Personal Messageg	662	●	●	●	●
CO Line (Idle) Direct Access	88+[LLL]	●	●	●	●
CO Line Group Access Code (group 0-23)	800-823	●	●	●	●
CO Line Group Access Code (all groups)	824	●	●	●	●
CO Line Queue	621	●	●	●	●
CO Line Queue Cancel	626	●	●	●	●
Conference (8 btn) (reqs btn)	624	●	●	●	
Dial-By-Name	6✳	●	●	●	
Directory Dial	680	●	●	●	
Do Not Disturb	631	●	●		●
DTMF Receiver Test	657	●	●	●	●
Executive Override	625	●	●	●	●
Flash (Centrex) (8 btn digital)	660	●			●
Headset Mode	634	●	●	●	

Function	Code	Digital	Electronic	Attendant	SLT
HPT (8-btn digital)	667	●			
Hunt Group (group 1-8)	450-457	●	●	●	●
Intercom Button (reqs btn)	645	●	●	●	
Keyset Mode	648+[#,*]	●	●	●	
Last Number Redial	[SPEED]+[#]	●	●	●	
LCR (E911 active on CO Line)	800	●	●	●	●
LCR (if active) or CO Line Group 1	9	●	●	●	●
Loop Key (reqs btn)	89	●	●	●	
Message Wait	623	●	●	●	●
Modem	499				●
Modem - Voice Mail Access	498				●
Mute (8 btn) (reqs btn)	629	●	●		
Name in Display	690	●	●	●	●
Night Service (reqs btn)	604	●	●	●	
Off Hook Voice Over (reqs btn)	628	●		●	
Page - All Call	700	●	●	●	●
Page - Ext Zone All/1/2	760-762	●	●	●	●
Page - Internal Zones 1-8, All	701-709	●	●	●	●
Page - Meet Me (Answer)	770	●	●	●	●
Personal Messages	633+[ZZ]	●	●		●
Release Button (reqs btn)	641	●	●	●	
Repeat Redial	643	●	●	●	
Ring Down/Hot Line/Off-Hook Pref	691+[BB]	●	●	●	
Ring Tone	695+[RR]	●		●	
Save Number Redial	[SPEED]+[*]	●	●	●	
SLT Conference Park	664				●
SLT Directed Call Pickup	#1				●
SLT Message Wait Answer	663				●
SLT Speed Dial	668+[YYYY]				●
SLT Speed Programming	661+[YYYY]				●
SLT Volume	638+[V]				●
Software Version of MPB	605	●	●	●	
Speed Dial	[SPEED]+[YYYY]	●	●	●	

Function	Code	Digital	Electronic	Attendant	SLT
Station/Port Fixed Number	611	●	●	●	
Station Relocate	636+[XXX]	●	●	●	
Stop Trace	658	●	●	●	
UCD Group (group 1-8)	550-557	●	●	●	●
Unanswered CO Call Transfer	639			●	
Universal Day/Night Answer	#5	●	●	●	●
Voice Mail Group (group 1-8)	440-447	●	●	●	●
VM Message Cancel (VM Port only)	421+[MMMM]				●
VM Message Set (VM Port only)	420+[MMMM]				●
VM Message Set w/count (VM Port only)	422+[MMMM]				●
VM One Touch Record (reqs btn)	649+[VVV]	●	●	●	
VM Pause/Resume Record (Digital VM) (reqs btn)	655	●	●	●	
Voice Mailbox Btn (reqs btn)	460-467+[VMID]	●	●	●	
Voice Mailbox Btn - Remote (reqs btn)	468+[VMID]	●	●	●	
Volume Increase/Decrease (8 btn)	638+[#]/[*]	●			

TABLE LEGENDS

B = Button w/ feature code:
622 = Call Back
620 = Camp On
625 = Exec Override
623 = Message Wait
628 = OHVO

BB = Button Number

C = Call Forward Condition Code
6 = All Calls
7 = No Answer
8 = Busy
9 = Busy/No Answer)

FFF = ACD Call Factor (000-999)*

LLL = CO Line Number

MMMM = 2- to 4-digit Mailbox Number

NNN = CO Line Group Access Code of group to be forwarded
801- 823 = CO Group 1-23
824 = All CO Groups

RR = Ring Tone Number (00-36)

UUU = ACD Group 1-16 (550-565)*

UUUU = ACD Supervisor/Agent ID Code (0000-9999)

V = Volume Control Level (0-9)

VVV = Voice Mail Group Number (440-447)

XX = Custom Message Number (21-30)

XXX = Intercom Station Numbers

YYY = Last 3 digits of Speed Dial Bin Numbers (for use with ACD Call Qualifier)

YYYY = Speed Dial Bin Numbers (9000-9999)

ZZ = Personalized Messages

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